



Downingtown Train Station Project

Categorical Exclusion Evaluation

Agreement E02871 - Environmental
Work Order #2 - Downingtown Station NEPA
Task #1.5, Deliverable #1.5

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1.0 Introduction

A long term improvement project administered by the Pennsylvania Department of Transportation's (PennDOT) Bureau of Public Transportation (BPT) is currently underway to upgrade the existing Keystone Corridor to meet current design standards as well as the operational needs of the future.

As part of the effort to improve the Keystone Corridor, PennDOT BPT is planning the replacement of the Downingtown Train Station, most likely via a Public Private Partnership. The Downingtown Train Station is located between the Coatesville and Exton passenger train stations, in the Borough of Downingtown, Chester County, Pennsylvania.

Currently, Amtrak operates the Keystone and Pennsylvanian routes on this corridor. Additionally, Norfolk Southern freight trains currently operate on Amtrak Track 2 at this location. Finally, Krapf's Coaches Route A and Transportation Management Association of Chester County (TMACC) Beeline buses serve the station. The existing Downingtown Station consists of a single low level platform for the eastbound track and a single low level platform for the westbound track. The existing station includes a pedestrian underpass with staircases to each platform, two semi-enclosed shelters, benches, one bicycle rack, trash receptacles, and a pay phone. The existing station does not include rest rooms, ticket office, Quik-Trak kiosk, information displays, ATM, Wi-Fi, or security system.

The purpose of this Categorical Exclusion Evaluation is to evaluate the potential social, economic, and environmental impacts of the Downingtown Train Station Project. This Categorical Exclusion Evaluation has been produced pursuant to the Federal Transit Administration (FTA) Procedures for Considering Environmental Impacts (23 CFR 771, and 23 CFR 774). This Categorical Exclusion Evaluation does not include the private development that may result from the potential Public Private Partnership arrangement. Any private development such as residential or commercial uses will have funding and permitting completely separate from the Downingtown Train Station Project examined in this document, and it is assumed that local review boards will review and require mitigation for resultant impacts to water, sewer, and traffic.

2.0 Purpose and Need

The purpose of the project is to provide an Americans with Disabilities Act (ADA)-compliant train station in the Borough of Downingtown.

The project is needed because the existing station is not ADA-compliant, and the necessary modifications are not possible at the existing site. To comply with the ADA, it is necessary to

install high level platforms on tangent track to provide the most efficient ADA boarding. The existing location is incompatible due to its position in a horizontal curve.

3.0 Location

The Borough of Downingtown is located in Chester County, Pennsylvania, about 32 track miles west of Philadelphia and 72 track miles east of Harrisburg. The existing station is located at West Lancaster Avenue and Stuart Avenue (40.002067°N, -75.710489°W). The proposed station is located where the rail line intersects Brandywine Avenue, just east of East Branch Brandywine Creek (40.002803°N, -75.702256°W). The proposed location is less than half a mile east of the existing location. See Appendix A for location maps and Appendix B for site photographs.

Land use and property acquisitions are detailed in Section 5.2 and include occupied and unoccupied residences as well as vacant lots and railroad land. Surrounding features include Brandywine Avenue, the rail line, East Branch Brandywine Creek, Johnsontown Park, the Borough wastewater treatment plant, residences, and businesses.

4.0 Project Description

The proposed new train station will be located less than half a mile east of the existing location, just east of East Branch Brandywine Creek. The proposed train station will include side platforms with canopies, elevator/stair towers, a railroad bridge, a pedestrian bridge, retaining walls, and parking. As shown in Appendix C, the project area is at the intersection of the rail line with Brandywine Avenue, with a vast majority of the project footprint located in the southwestern and southeastern quadrants.

4.1 Platforms

Two side platforms will be installed at 4'-0" above nearest top of rail, 5'-7" from centerline of nearest track center, and will be sloped away from the tracks (1/8" per foot). Each side platform will be 12'-0" wide x 500'-0" long with each platform providing access to two staircase and elevator towers, allowing riders to exit to street level on the east or west side of Brandywine Ave. The existing rail tracks adjacent to the platforms will be smoothed out in order to keep an even 4'-0" elevation difference along the length of the platforms. Each platform will meet ADA and other safety requirements and will include two elevator/stair towers per platform, canopies, wayfinding signage, a static schedule display board (with audio message for hearing impaired), public address system, audio and visual Amtrak passenger information display boards, lighting, closed circuit television cameras, one emergency phone per platform, benches, trash receptacles, and recycling containers. However, the platforms will not include shelters or public telephones.

Norfolk Southern high and wide freight loads currently utilize center Track 2, and are expected to continue doing so in the future.

4.2 Canopies

Platform canopies will be a double-sloped gable design and will cover approximately 50 percent of the total platform length for each platform. All gutters and downspouts will direct water away from the track surface and into underground drains, which will be piped away from the track bed. The canopies will be structural steel finished with a high-performance paint system and will include adequate lighting along their full length. The canopies will include continuous snow guards to prevent the sudden release of snow and ice from the roof. Benches with integral arms to discourage individuals from lying down will be placed underneath the canopies.

4.3 Elevator/Stair Towers

The elevator/stair towers proposed for each quadrant will provide access to the platforms from the parking areas. The elevator emergency call boxes will be programmed to call the local police department. The stairways will be enclosed.

4.4 Railroad Bridge

In order to allow pedestrian/bike travel from the South Quadrants to the north platform, and vice versa, a system of pedestrian tunnels and overpasses was originally proposed. However, these components introduced several negative factors including safety, cost, constructability and maintenance. Instead, it has been proposed that the Amtrak Bridge over Brandywine Avenue (SR 0322) be replaced with a longer span to allow for an urban arterial section including walkways and a buffer (shoulder) between vehicles and pedestrians. Elevator/stair towers are proposed for each quadrant, so the platforms will be used for west-east movement across US 322 and the railroad span will provide the north-south pedestrian movement.

4.5 Pedestrian Bridge

A pedestrian bridge is proposed over Brandywine Creek to provide the community with west/east access to the station as well as downtown Downingtown and to improve access to the adjacent park and trail. There are currently no pedestrian structures for residents west of Brandywine Creek to access the downtown area. This bridge will span from the Brandywine Trail in Johnstown Park to the southwest train station parking lot. The proposed structure, which may be prefabricated, will be 14 feet wide with a concrete deck and a handrail.

4.6 Retaining Walls

The existing tracks are currently situated approximately 15 to 21 feet above the surrounding grade at the proposed station location. Existing retaining walls are located at the northwest and

southeast parking areas, and there is an existing, abandoned building foundation which is adjacent to the rails in the southwest parking area, which appears to be acting as a retaining wall. The existing wall in the southwest quadrant can be eliminated with grading, and new retaining walls will be installed in the other quadrants as indicated in the enclosed designs (Appendix C).

4.7 Parking and Access

A total of approximately 985 parking spaces, all in the southwest and southeast quadrants, will be provided to accommodate riders. Parking at the existing station is not owned by PennDOT and will not be used for the new station.

Station access will be from Brandywine Avenue (State Route 0322), as well as from Boot Road, Reed Street, and Logan Avenue, which are all Borough roads. Additionally, there will be a loop drop off area in the northwest quadrant as well as drop off areas in the southwest and southeast quadrant parking lots. Logan Avenue is proposed to be improved with the project.

Pedestrian access in and around the station will greatly improve due to the proposed new span of the tracks over Brandywine Avenue, which will create a safe north/south movement for access to both platforms as well as to downtown areas north and planned development south. In order to prevent mid-block west/east crossing over Brandywine Avenue, a barrier will be installed along the inside of the sidewalk on each side for a length coinciding with station access. Both pedestrian and bicycle access through the area will be improved via the proposed bridge across Brandywine Creek, which will connect the Johnsontown Park paths to the train station. Additionally, a shared use bike path will be constructed in the southwest quadrant to connect the bridge to Boot Road, and there will be covered bike storage in both the northwest quadrant and the southeast quadrant.

5.0 Environmental Consequences

5.1 Resources with No Concern

Impact analysis for some resources resulted in a finding that the resources were either not present or not negatively impacted by the proposed project, including the following:

- Farmlands

Some of the following sections in the text describe categories which also will not be negatively impacted, but additional detail was deemed appropriate for those categories in order to facilitate the environmental review.

5.2 Land Use, Zoning, and Property Acquisition

5.2.1 Land Use

Industrial and residential parcels will be developed into the proposed station and adjacent parking areas. The southwestern quadrant of the project area includes the site of the former Sonoco paper mill and includes concrete and brick structures in a state of disrepair. The southeastern quadrant of the project area includes a large vacant lot with various construction debris piles. Between these two areas, in the south central section, lies a row of vacant, residential parcels along Brandywine Avenue. Residential parcels are also located within the northern section of the project area but are soon to be acquired and the houses demolished.

Surrounding properties include McGuckin & Pyle Inc., a custom machine shop still in operation, located on the northeast border of the project area, residences to the northwest, and a few private businesses to the east. A private mixed-use development called River Station is proposed adjacent to the new station, on the site of the former Sonoco paper mill. This private development has funding and permitting completely separate from the Downingtown Train Station Project examined in this document.

Below is a list of tax parcels included within the proposed project area (see map in Appendix A):

- Parcels 11-8-70 and 11-8-71 are owned by Brandywine Avenue Commercial Inc., and consist of several storage trailers and a total of five structures, which are utilized as commercial businesses and residential apartments. Surrounding areas consist of grass and gravel parking areas.
- Tax Parcel 11-8-158.1 contains two warehouse structures, surrounded by grass and paved parking areas. The western portions of Tax Parcels 11-8-158 and 11-8-418 consist of tree cover and gravel parking areas.
- Tax Parcels 11-8-72 and 11-8-159 consist of the Amtrak railway and are bordered by perimeter chain-linked fencing.
- Tax Parcel 11-8-73 contains four concrete and brick structures associated with the former paper mill, which are currently vacant. River Station Land LP owns this parcel along with all of the following parcels.
- Tax Parcels 11-8-160 and 11-8-161 contain building remnants scattered across soil and gravel land on the south side of the Amtrak railway.
- Tax Parcels 11-8-163 through 11-8-167 combine to form a vacant strip of land where residences once stood between Logan Avenue and Edgerton Ally.

- Tax Parcels 11-8-168 through 11-8-174 each contain a vacant residence located between Brandywine Avenue and Moore Ally.
- Tax Parcel 11-8-175 is mostly a vacant gravel lot with a vacant residence located on the western border adjacent to Moore Ally.
- Tax Parcels 11-8-74, 40-3-4, and 40-3-5 contain a vacant building and gravel driveway connected to Brandywine Avenue.

5.2.2 Zoning

According to the Borough of Downingtown Zoning Map, the subject parcels are located in the following zoning districts:

- General Commercial (C-1)
- General Industrial (I-2)
- Traditional Neighborhood Development (TND)
- Infill Development (R/C)

The majority of the project area falls within the TND district which is intended to provide a context for redevelopment at the southern edge of the Borough into a mixed-use, moderate-density, transit-oriented development. According to Section 287-65.8 of the Downingtown Zoning code, the proposed development must promote the use of public transportation, walking, and other alternatives to the automobile as well as create an interconnecting road system that mimics and seamlessly blends into the existing Downingtown street network. Emphasis must also be placed on the preservation, protection, restoration, and reuse of abandoned industrial buildings, site ruins, site artifacts, creek views, and wooded and pasture land that reflect the character of the Borough's historic industries.

Only one portion of the project area is within a Federal Emergency Management Agency (FEMA) designated floodplain. The proposed pedestrian bridge crosses through the regulatory floodway of East Branch Brandywine Creek as well as the 1-percent-annual-chance floodplain and the 0.2-percent-annual-chance floodplain (see Floodplain section for details). Executive Order 13690, which amended Executive Order 11988, is discussed in the Floodplain section. Per the Borough zoning code for the floodplain district, a use and occupancy permit will be obtained during the design process. The Borough zoning map also shows that the Floodplain District borders the study area to the west, but the only aspect of development subject to this district is the proposed pedestrian bridge. According to Section 287-12 of the Borough zoning code, the Floodplain District includes any areas located within the 1-percent-annual-chance floodplain. Bridges are not permitted within the floodway unless a special exception is granted by the Zoning Hearing Board.

Additionally, the eastern half of the project area is within the Central Business Revitalization Overlay. Per the Borough zoning code, development within the Central Business Revitalization Overlay must “promote the character of Downingtown as a traditional town with traditional neighborhoods,” especially in relation to the walkability of the area. Development within the overlay area also must conform to regulations additional to those already in place for the underlying zoning districts and must conform to the Central Business District Revitalization Plan of the Borough of Downingtown. Refer to Appendix D for the Zoning Map.

PennDOT will follow Borough of Downingtown zoning requirements during implementation of the project, to the extent practicable.

5.2.3 Acquisitions

Implementation of the project will require 10 partial takes and 16 full takes. No temporary construction easements are anticipated at this time. All requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 will be met, and property owners will receive fair market value for their property. It is anticipated that the acquisition process will span from fall 2016 to spring 2018. The process will start by notifying property owners and then any building tenants, as many of the properties to be acquired are currently vacant. Occupants will then be asked to complete pre-acquisition surveys, which include questions about ethnicity and income. Property appraisals can be done concurrent with or subsequent to the pre-acquisition surveys. Formal offers will then be made to the property owners, and the relocation process will then be initiated.

Please refer to Table 1 and to Appendix A for illustration of proposed property acquisitions.

Table 1 - Properties to be Acquired			
Chester Co. UPI #	Current Owner	Current Use	Type of Acquisition
PIN 11-8-70	Brandywine Commercial Inc.	Housing and Commercial	Partial Take (0.54 of 2.80 total acres)
PIN 11-8-71	Brandywine Commercial Inc.	Housing	Full Take (0.31 acres)
PIN 11-8-72	National Railroad Passenger Corp.	Railroad	Partial Take (1.69 of 2.34 total acres)
PIN 11-8-73	River Station Land LP	Vacant Factory	Partial Take (7.80 of 11.52 total acres)
PIN 11-8-74	River Station Land LP	Vacant Factory	Partial Take (1.28 of 1.54 total acres)
PIN 11-8-158	Pennsylvania Lines, LLC	Railroad	Partial Take (0.45 of 2.70 total acres)

Table 1 - Properties to be Acquired			
Chester Co. UPI #	Current Owner	Current Use	Type of Acquisition
PIN 11-8-158.1	McGuckin & Pyle	Machine Shop	Partial Take (0.04 of 1.03 total acres)
PIN 11-8-159	National Railroad Passenger Corp.	Railroad	Partial Take (0.37 of 8.20 total acres)
PIN 11-8-160	River Station Development	Vacant Lot	Full Take (3.59 acres)
PIN 11-8-161	River Station Land LP	Vacant Lot	Full Take (0.11 acres)
PIN 11-8-163	River Station Land LP	Vacant Lot	Full Take (0.07 acres)
PIN 11-8-164	River Station Land LP	Vacant Lot	Full Take (0.23 acres)
PIN 11-8-165	River Station Land LP	Vacant Lot	Full Take (0.13 acres)
PIN 11-8-166	River Station Land LP	Vacant Lot	Full Take (0.36 acres)
PIN 11-8-167	River Station Land LP	Vacant Lot	Full Take (0.05 acres)
PIN 11-8-168	River Station Land LP	Vacant House	Full Take (0.28 acres)
PIN 11-8-169	River Station Land LP	Vacant House	Full Take (0.10 acres)
PIN 11-8-170	River Station Land LP	Vacant House	Full Take (0.10 acres)
PIN 11-8-171	River Station Land LP	Vacant House	Full Take (0.10 acres)
PIN 11-8-172	River Station Land LP	Vacant House	Full Take (0.10 acres)
PIN 11-8-173	River Station Land LP	Vacant House	Full Take (0.10 acres)
PIN 11-8-174	River Station Land LP	Vacant House	Full Take (0.20 acres)
PIN 11-8-175	River Station Land LP	Housing and Vacant Land	Full Take (0.85 acres)
PIN 11-8-418	Main Street Village Inc.	Housing	Partial Take (0.07 of 5.27 total acres)
PIN 40-3-4	River Station Land LP	Vacant Lot	Partial Take (0.21 of 0.31 total acres)
PIN 40-3-5	River Station Land LP	Vacant Lot	Partial Take (0.12 of 0.87 total acres)

All but two of the buildings to be acquired are already vacant and owned by the developer River Station Land LP. The paper mill has been vacant since a fire in 2005 caused extensive damage. The other River Station Land LP buildings were also vacated, and the buildings on parcel 11-8-160 were demolished by the owner. The owner did this prior to learning of the proposed train station project in anticipation of a separate development project, which the owner did not implement. Two of the buildings, both in the northwest quadrant, are occupied rental units owned by Brandywine Commercial Inc. One of the occupied buildings appears to have five residential rental units, while the other occupied building appears to have one residential rental unit and one commercial rental unit (Gaydos Granite & Tile).

All of the property owners received notice of intent to enter letters from PennDOT in July 2013 and July 2015, with mention of “plans for transit improvements” in the vicinity. To date, only

River Station Land LP/River Station Development has specifically discussed the train station project with PennDOT. Because these discussions have not yet taken place with all property owners, it is not yet known if eminent domain will be required. However, parcel 11-8-160, owned by River Station Development, has liens which may necessitate its condemnation.

5.3 Traffic

Roadways within the project area include Brandywine Avenue, Boot Road, Reed Street, and Logan Avenue. Brandywine Avenue (SR 0322) is a two to four-lane north-south urban principal arterial roadway with a speed limit of 25 to 45 mph in the vicinity of the proposed site. There is an existing rail overpass located on Brandywine Avenue within the project area where the roadway becomes a very narrow two-lane cross-section. It was observed that traffic slows through this section and trucks are forced to straddle the north and southbound lanes temporarily interrupting two-way traffic. Boot Road (SR 2020) is a two-lane, east-west urban minor arterial roadway with a speed limit of 40 mph within the project area. Reed Street is a two-lane, north-south local road with a speed limit of 25 mph. Logan Avenue is a two-lane, east-west local road with a posted speed of 25 mph.

Roadways within the existing train station location include Lancaster Avenue, Wallace Avenue, Viaduct Avenue, and Quarry Road. Lancaster Avenue (SR 3070) is a two-lane, east-west urban arterial roadway with a speed limit of 25 to 35 mph within the study area. Wallace Avenue (SR 0282) is a two-lane north-south urban collector roadway with a posted speed limit of 25 mph. Viaduct Avenue (SR 3053) is a two-lane, north-south, urban collector roadway with a speed limit of 25 mph within the project area. Quarry Road (SR 3061) is a two-lane, north-south, local roadway with a speed limit of 45 mph.

Four new platform access areas and four parking areas are proposed for this project and are located to the northeast, northwest, southeast, and southwest quadrants, using the crossing of the rails over Brandywine Avenue as a reference point. Approximately 985 parking spaces are proposed to accommodate riders. All parking areas are proposed south of the train tracks, but all quadrants will provide ADA compliant pedestrian as well as bike connectivity to the proposed platform and Brandywine Avenue sidewalk.

Pedestrian access will be improved as part of the project, with the construction of a pedestrian bridge over the East Branch Brandywine Creek providing the community with west/east access across the creek. There are currently no structures for residents west of the creek to access the downtown area. This bridge will span East Branch Brandywine Creek from the Johnstown Park trails, and would connect with the proposed southwest parking lot. The proposed new span of the tracks over Brandywine Avenue creates a safe north/south movement for pedestrian access

to inbound and outbound platforms as well as to downtown areas north and planned development south.

A Transportation Impact Study (Michael Baker Jr. Inc., November 2014) completed during preliminary design recommended that improvements be made to offset the impacts of construction of the proposed project as well as existing deficiencies within the study area. PennDOT is committed to mitigating potential traffic impacts that are indicated based on the final design of this project. Therefore, PennDOT will re-assess the 2014 recommendations as they relate to the final design of the project and will implement as appropriate.

5.4 Air Quality

Under the Clean Air Act, the U.S. Environmental Protection Agency (EPA) sets standards for six common air pollutants called criteria pollutants. The criteria pollutants include particulate matter (PM_{2.5} and PM₁₀), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead, which can harm human health, the environment, and property. The limits set by the EPA for the criteria pollutants are known as national ambient air quality standards (NAAQS). Locations which persistently exceed the NAAQS may be designated as nonattainment, while those which meet the NAAQS may be designated as attainment. Maintenance areas are those which had a history of nonattainment but are now consistently meeting the NAAQS and have a maintenance plan in place.

The proposed project is located in Chester County, Pennsylvania. The EPA has designated Chester County as being in attainment for PM_{2.5} (2012 standard), PM₁₀ (1987 standard), sulfur dioxide (2010 standard), carbon monoxide (1971 standard), nitrogen dioxide (1971 standard), and lead (2008 standard). However, Chester County is in nonattainment for ozone (8-hour, 2008 standard) and in maintenance for PM_{2.5} (1997 standard) and PM_{2.5} (2006 standard).

The EPA promulgated the General Conformity Regulations in 1993 in order to implement Section 176(c) of the Clean Air Act. The purpose of the General Conformity Rule is to ensure that federally supported or approved activities do not cause or contribute to a new violation of NAAQS, worsen an existing violation, or delay attainment of the NAAQS. General conformity de minimis levels, the minimum thresholds for which a conformity determination must be performed, are identified in 40 CFR 93.153(b). Transportation conformity is required in areas, like Chester County, which are designated nonattainment and maintenance by the EPA for the transportation-related criteria pollutants. Per 40 CFR 93.104(b) and (c), this applies to metropolitan transportation plan and transportation improvement program updates and amendments unless an amendment merely adds or deletes projects exempt from conformity in 40 CFR 93.126 or 93.127. The proposed Downingtown Train Station Project is not exempt from

regional conformity under Table 2 of 93.126 or Table 3 of 93.127. This project is included in the draft FY 2017-2020 Transportation Improvement Program (TIP) for Pennsylvania of the Delaware Valley Regional Planning Commission (DVRPC), and a regional conformity analysis has been completed as part of the TIP process.

Final Conformity Rule 40 CFR Part 51 requires that transportation plans and programs in nonattainment or maintenance areas:

- Are consistent with the most recent estimates of mobile source emissions;
- Provide for the expeditious implementation of transportation control measures in the applicable implementation plan; and
- Contribute to annual emissions reductions in nonattainment areas.

The project-level screening process for carbon monoxide and PM was completed using the criteria set forth in PennDOT's *Project-Level Air Quality Handbook* (Publication 321). The subject project does not include or directly affect any roadways for which the 20-year forecasted daily volume will exceed the established threshold level of 125,000 vehicles per day. It can therefore be concluded that the project will have no significant adverse impact on air quality as a result of carbon monoxide emissions.

The proposed project is located in an attainment area for PM_{2.5} (2012 standard) and PM₁₀ (1987 standard). The project does not require a project-level conformity determination. According to the PM_{2.5} and PM₁₀ hot-spot analysis requirements established in the March 10, 2006, final transportation conformity rule (71 CFR 12468), no further project-level air quality analysis for these pollutants is required.

5.5 Wetlands and Waterways

Michael Baker performed a wetland and waterway identification and delineation on August 14, 2015 to satisfy requirements of the U.S. Army Corps of Engineers (USACE) as governed by Section 404 of the Clean Water Act and the requirements of the Pennsylvania Department of Environmental Protection (PADEP) under Chapter 105, the Dam Safety and Encroachments Act, and Section 401, Water Quality Certification. The project site was investigated for federal and/or state regulated wetlands and waterways. Wetland boundaries were determined using the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*. Preliminary investigations of available mapping identified East Branch Brandywine Creek and its tributary as well as hydric areas within the immediate project area. Field investigation identified East Branch Brandywine Creek, one unnamed tributary to East Branch Brandywine Creek (Tributary 1), and two wetlands within the project limits. One

wetland area has been identified as palustrine emergent (PEM) while the other has been identified as palustrine forested (PFO). The function and value of the wetland areas are primarily groundwater recharge, sediment/toxicant retention, and nutrient removal.

East Branch Brandywine Creek flows northeast to southwest within the project area and overall flows southeast until it converges with West Branch Brandywine Creek to form Brandywine Creek. East Branch Brandywine Creek originates approximately 16 stream miles northwest of the project site to the northeast of Honey Brook, PA as an outfall from the dam at Robert G. Struble Lake. The drainage area size of East Branch Brandywine Creek at the proposed Downingtown Train Station project area is approximately 0.04 square miles. The watershed is mainly rolling terrain, flat in the immediate floodplain. Approximately 6 percent of the drainage area is forested.

East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch) is designated as a warm water fishery with migratory fishes (WWF, MF) in the Pennsylvania Code Title 25 Chapter 93 Water Quality Standards. East Branch Brandywine Creek is perennial and is not designated by the Pennsylvania Fish and Boat Commission (PFBC) as approved trout waters (stocked with trout) within the project area although a section of the Creek which ends just north of the project area is approved trout waters. According to the PFBC, a 4.26 mile section of East Branch Brandywine Creek ending at Culbertson Run supports naturally reproducing trout. However, these Wild Trout Limits are located north of the project area and the Creek is not known to support naturally reproducing trout within the project area limits. East Branch Brandywine Creek is generally about 100 feet wide within the project area. During the field view of the site, the creek was clear. The stream bottom consists mainly of silt and small cobble. Vegetation observed on the banks included green ash (*Fraxinus pennsylvanica*, FACW), boxelder maple (*Acer negundo*, FAC), Japanese honeysuckle (*Lonicera japonica*, FAC), and poison ivy (*Toxicodendron radicans*, FAC). The stream is mostly located outside of the proposed project area's western border. The project area crosses over the stream at the location of the proposed pedestrian bridge. East Branch Brandywine Creek is not a designated water trail by the PFBC and is not considered navigable waters under Section 10 of the Rivers and Harbors Act. However, it is known that the Creek is used by recreational boats according to the Keystone Canoeing Guide (Gertler, 2004) and would be considered navigable-in-fact under Section 404 of the Clean Water Act. Coordination with the PFBC regarding the requirement of an Aids-to-Navigation (ATON) plan will be necessary.

Tributary 1 flows east to west within the project area and confluent with East Branch Brandywine Creek southwest of the project area. This tributary is not mapped on National Wetland Inventory (NWI) or soil maps, but can be seen on topographic mapping. Site

investigation confirmed the presence of this stream but with very low flow. The tributary flows through a vacant, developed area, and crosses beneath the proposed extension of Boot Road, near the southern terminus of the proposed project area. The majority of the tributary is located outside of the project area, as it closely follows the project area's southern border until it reaches East Branch Brandywine Creek. Tributary 1 is a tributary to East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch), which, as previously mentioned, is designated as a warm water fishery with migratory fishes (WWF, MF) in the Pennsylvania Code Title 25 Chapter 93 Water Quality Standards. Tributary 1 is perennial, is not designated as approved trout waters, and is not known to support naturally reproducing trout by PFBC. Tributary 1 is generally about 2 feet in bottom width and 3 feet wide from top of bank (TOB) to TOB within the project area. During the field view of the site, the stream was clear. Vegetation observed on the banks of Tributary 1 included tree of heaven (*Ailanthus altissima*, FACU), green ash (*Fraxinus pennsylvanica*, FACW), boxelder maple (*Acer negundo*), staghorn sumac (*Rhus typhina*, FAC), Marrow's honeysuckle (*Lonicera morrowii*, FACU), Japanese honeysuckle (*Lonicera japonica*, FAC), poison ivy (*Toxicodendron radicans*, FAC), and Virginia creeper (*Parthenocissus quinquefolia*, FACU). The full wetland report is included as Appendix E.

To facilitate pedestrian access to the proposed train station, the project includes the construction of a pedestrian bridge over the East Branch Brandywine Creek to connect the Johnstown Park and Brandywine Trail with the train station. Due to this, as well as the construction of the Boot Road extension across Tributary 1, it is anticipated that the project will require authorization through a Chapter 105 waterway permit from the PADEP and a Section 404 permit from the USACE. Although the project will likely impact the delineated wetlands, since both wetlands are isolated and below the PADEP de minimus area of 0.05 acres, mitigation is not anticipated. As required, as part of the design process, opportunities to avoid or minimize impacts to regulated resources will be examined. The proposed stormwater Best Management Practice (BMP) outfalls draining to Tributary 1 in the southwest quadrant appear to meet the requirements for a Permit Waiver.

Other waterways within 1/8 mile of the project area include Parke Run (WWF) and tributaries to East Branch Brandywine Creek. Additionally, there are impoundments about 200 feet south of the project area at the Borough wastewater treatment plant. Refer to the topographic map in Appendix A for mapping showing these waterways in relation to the project area. None of these waterways are federally designated or state designated scenic rivers. East Branch Brandywine Creek (as part of the Lower Brandywine corridor) is a Pennsylvania designated scenic river from about 0.5 mile south of the project area onward to the Pennsylvania-Delaware boundary, but not within the project area. The project area is not within a coastal zone, as designated by the Coastal Resources Management Program of the PADEP.

5.6 Water Quality

There are two wells within 1/8 mile of the subject property identified in the Pennsylvania Groundwater Information System (PaGWIS) database maintained by the PA Department of Conservation and Natural Resources (DCNR). According to the EPA, this area is not located over a sole source aquifer.

PennDOT considered potential short-term and long-term surface and ground water quality impacts caused by implementation of the Proposed Project. The area disturbed for this project will exceed one acre, so a PA DEP National Pollutant Discharge Elimination System (NPDES) permit will be required per Chapter 102 code. As part of the NPDES permit approval process, Erosion and Sedimentation Control Plan (ESCP) approval will be requested from the Chester County Conservation District. The PADEP Bureau of Waterways Engineering and Wetlands *Erosion and Sediment Pollution Control Program Manual* (March 31, 2012) will be utilized for the purposes of soil erosion and sediment control throughout the site during construction. Post construction stormwater management design is discussed in the Floodplains section of this Categorical Exclusion Evaluation.

The use of ESCP and best management practice (BMP) techniques and the fact that the project will be taking place on lands which are already partially impervious will minimize potential temporary and long-term impacts to local wells and waterways.

5.7 Floodplains

FEMA has primary responsibility for identifying flood-prone areas. FEMA conducted flood studies for Chester County to locate the extent of the flooding from the 1-percent-annual-chance and other storms. FEMA Flood Insurance Rate Map (FIRM) 42029C0145F (as revised to reflect Letter of Map Revision 09-03-1598P effective September 30, 2009) was consulted to determine the subject parcels' proximity to the regulatory floodway and the 1-percent-annual-chance floodplain. The project area appears to be close to the 1-percent-annual-chance floodplain and/or the 0.2-percent-annual-chance floodplain of East Branch Brandywine Creek in the southwestern and northwestern quadrants but never crosses into it other than at the pedestrian bridge. The proposed pedestrian bridge crosses through the regulatory floodway of East Branch Brandywine Creek as well as the 1-percent-annual-chance floodplain and the 0.2-percent-annual-chance floodplain. According to Section 287-12 of the Borough zoning code, bridges are not permitted within the floodway unless a special exception is granted by the Zoning Hearing Board. See Appendix F for the FEMA FIRM and also an aerial photograph showing the FEMA floodplain boundaries within the vicinity of the project area.

Post construction stormwater management design will be required as part of the NPDES permit, resulting in the construction of BMPs as shown on the plans in Appendix C. A stormwater analysis was run for each quadrant as well as each individual parking lot to determine the two-year storm volume increase. Proposed BMPs were then sized accordingly, to a preliminary design level of detail.

The parking loop design in the northwest quadrant will add green space and decrease impervious surface compared to existing conditions. Due to the resultant decrease in two-year storm volumes, no stormwater system is proposed for the northwest quadrant. Depressed curbs at the driveway and site grading will maintain existing drainage patterns, which flow toward Brandywine Creek.

The stair/elevator tower design in the northeast quadrant covers a small area and introduces some green space back into the site, so the two-year storm volume increase is negligible. No stormwater system is proposed for the northeast quadrant. The option of over mitigation for stormwater management is available in the southern parking areas for any runoff traveling down Brandywine Avenue from the northwest or northeast quadrants.

The southeast quadrant design includes a stair/elevator tower, over 450 parking spaces, a drop off loop, and improvements to Logan Avenue. Stormwater BMPs are proposed through green areas in islands and around the perimeter as well as subsurface detention.

The southwest quadrant design includes a stair/elevator tower, over 500 parking spaces, extensions of Loop Road and Boot Road, and a drop off loop. These improvements entail large impervious areas and will require stormwater BMPs such as trees, green space in parking islands, and two rain gardens.

The proposed stormwater BMP outfalls draining to the Unnamed Tributary to East Branch Brandywine Creek in the southwest quadrant meet the requirements for a PA Chapter 105 Permit Waiver. Additionally, the proposed extension of Boot Road will cross the Unnamed Tributary. The water course will be conveyed via a pipe culvert requiring a PA Chapter 105 waterway permit to be submitted to PADEP but will otherwise be preserved with a vegetated buffer. As previously mentioned, construction of the pedestrian bridge over East Branch Brandywine Creek (in the southwest quadrant) will likely require a PA Chapter 105 waterway permit as well. The culvert and pedestrian bridge can likely be submitted as a single permit package. A preliminary analysis of the hydraulic impacts of the pedestrian bridge, using Hec-RAS 4.0, indicated that this small bridge (14 feet wide and longer than the existing creek channel) will not affect floodplain levels. However, because of the significant elevation difference between the east and west banks

of East Branch Brandywine Creek at this location, a portion of the pedestrian bridge will be under water during a 1-percent-annual-chance or greater storm event.

Executive Order 13690, which amended Executive Order 11988, requires federal agencies to avoid, to the extent practicable, long and short-term adverse impacts caused by the occupancy and modification of floodplains. Under Executive Order 13690, agencies can select one of three approaches for establishing the flood elevation and hazard area that they use in siting, design, and construction. They can:

- Use data and methods informed by best-available, actionable climate science;
- Build two feet above the 1%-annual-chance flood elevation for standard projects, and three feet above for critical buildings like hospitals and evacuation centers; or
- Build to the 0.2%-annual-chance flood elevation.

Based on the conceptual design information (see Appendix C):

- All four elevator towers, all parking lots, and the vehicle turnaround will be more than 2 feet above the 1%-annual-chance flood elevation.
- The rain gardens will be less than 2 feet above the 1%-annual-chance flood elevation.
- A portion of the pedestrian bridge over East Branch Brandywine Creek will be lower than the 1%-annual-chance flood elevation.

5.8 Environmental Justice

An Environmental Justice analysis was performed per Executive Order 12898, U.S. Department of Transportation Order 5610.2(a), and FTA Circular 4703.1, to determine whether minority and/or low-income populations will experience disproportionate adverse environmental or human health impacts from the proposed project.

FTA Circular 4703.1, dated August 15, 2012, states that the term “minority” includes American Indian and Alaska Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander persons.

The 2010-2014 American Community Survey 5-Year Estimate demographic data (the latest complete data set) from the United States Census Bureau is summarized in Table 2. Note that this information was not available at the Block level, which represents a smaller geographic area.

Table 2 - Race/Ethnicity of Residential Population				
	CT 3041.02 (Existing Station)¹	CT 3041.01 (Proposed Station)¹	Downing- town Borough¹	Chester County¹
Total Population	3,373	4,548	7,921	506,422
<i>Race/Ethnicity of Residential Population, as a Percentage of Total Population</i>				
Population that is White	78.3	75.7	76.8	86.7
Population that is American Indian and Alaska Native	0.0	0.0	0.0	0.1
Population that is Asian	3.6	4.5	4.1	4.3
Population that is Black or African American	13.0	14.6	14.0	6.0
Population that is Native Hawaiian and other Pacific Islander	0.0	0.0	0.0	0.0
Some Other Race	3.1	2.0	2.4	1.1
Two or More Races	1.9	3.2	2.7	1.9
Population that is Hispanic or Latino	7.7	5.3	6.4	6.8
Total Minority²	29.3	29.6	29.6	20.2
¹ U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates				
² Total minority is the sum of the populations for all non-white races and the population for white-Hispanic.				

Per the Council on Environmental Quality's *Environmental Justice: Guidance Under the National Environmental Policy Act* (1997), minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. "Meaningfully greater" may be defined as more than 10 percentage points. The proposed Downtown Train Station will be located in Census Tract 3041.01, while the existing station is in Census Tract 3041.02, both of which are within Downtown Borough, Chester County. The minority populations of Census Tract 3041.01 and Census Tract 3041.02 neither exceed 50

percent nor are meaningfully greater than the minority population of Downingtown Borough or Chester County.

FTA Circular 4703.1 states that when FTA funds are combined with other Department of Transportation funds, then the term low-income means a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines. As shown in Table 3, the median household income of Census Tracts 3041.01 and 3041.02, Downingtown Borough, and Chester County are all above the HHS poverty guidelines.

Table 3 - Income Data					
	CT 3041.02 (Existing Station)¹	CT 3041.01 (Proposed Station)¹	Downing- town Borough¹	Chester County¹	HHS Guidelines²
Median Household Income	\$58,421	\$57,043	\$57,327	\$86,093	\$23,850
¹ U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates					
² HHS 2014 Poverty Guidelines for the 48 Contiguous States and the District of Columbia, for a family of 4					

The population of the project area does not meet the preceding definitions of low-income populations per FTA's Circular, as they relate to environmental justice. Therefore, the proposed project will not result in disproportionately high or adverse impacts to low-income populations.

Impacts to residences and businesses have been minimized as much as possible by the project design. For example, the footprint of the Northeast Quadrant design is intentionally small in order to minimize impacts to a thriving industrial operation, McGuckin Pyle Inc. All but two of the buildings to be acquired are already vacant and owned by the developer River Station Land LP. Two of the buildings, both in the northwest quadrant, are occupied rentals owned by Brandywine Commercial Inc. One of the occupied buildings appears to have five residential rental units, while the other occupied building appears to have one residential rental unit and one commercial rental unit (Gaydos Granite & Tile). Ethnicity and income information for the tenants is currently unknown but will be solicited during the acquisition process (see Section 5.2.3 Acquisitions). Based on the field investigation, only a few individual homes are located within the vicinity of the project. Therefore, less than 0.4 percent of the 4,548 individuals living in Census Tract 3041.01 and each of its block groups would be directly impacted by the project (assuming 2.5 residents in each of the 6 residential rental units). Due to the small number of residences, Census Tract or Census Block Group level data is insufficient in determining whether low-income or minority populations exist in the project area. Because the project effects are

minimal and are isolated to very few residents, effects could not be high and disproportionate for minority and low-income populations. In addition, with the minimization and mitigation measures documented in this CE, no disproportionate effects would be expected. The addition of a new train station may improve access to certain populations and could be a beneficial impact to adjacent populations.

5.9 Hazardous Materials

5.9.1 Studies

Several investigations have been conducted at the subject properties in order to assess potential environmental liabilities, including the following:

- *Site Characterization Report: Former Sonoco Products Company Facility* (Environmental Standards, Inc., May 2008)
- “Abbreviated Phase I Environmental Site Assessment Summary” (Skelly and Loy, Inc., December 2012)
- “Geophysical Survey Report” (Rhea Engineers & Consultants, Inc., October 2013)
- *DRAFT Phase II Environmental Site Assessment* (Michael Baker Jr., Inc., March 2014)
- “Site Contamination Analysis” (Michael Baker International, November 2015)

The 2008-2014 studies were included as Attachment C of the 2015 “Site Contamination Analysis,” which has been attached in its entirety as Appendix G of this report. A brief overview of each of the previous environmental studies is provided below.

5.9.1.1 *Site Characterization Report: Former Sonoco Products Company Facility*

This site characterization was prepared in response to a Consent Order with PADEP and was intended to consolidate sampling results and findings from environmental investigations that had been occurring during the previous three years at the 70 acre site. The Site Characterization report provides detailed summaries of each of the previous investigations. Soil sampling was conducted south of the rail line, including the area proposed as train station parking, elevator towers, Logan Avenue extension, Boot Road extension, rain gardens, and the pedestrian bridge across East Branch Brandywine Creek. Groundwater and Vapor Intrusion were eliminated as issues of concern. Arsenic and lead in soil exceeded non-residential criteria in this area, with several exceedances adjacent to East Branch Brandywine Creek (see Figure 5 and Figure 7 of Attachment G).

5.9.1.2 *Abbreviated Phase I Environmental Site Assessment Summary*

The Abbreviated Phase I Environmental Site Assessment was completed for several alternatives being considered at that time and was based on the work done in the Site Characterization Report

from 2008. The River Station West and River Station East alternatives in this report partially cover the project area currently being proposed for the Downingtown Train Station Project (see Figures 3 to 4 of the Phase I report). Several recognized environmental concerns were noted within or in the vicinity of the current project footprint. Table 1 of the Abbreviated Phase 1 report elaborated on specific environmental concerns within the footprint of each considered alternative location and provided recommendations for addressing the concerns at each alternative. These concerns were investigated further in subsequent studies, described in Sections 5.9.1.3 to 5.9.1.5.

5.9.1.3 Geophysical Survey Report

Geophysical surveys were conducted in four areas within the footprint of the proposed relocation using ground penetrating radar and a pipe locator. The surveys covered portions of the current project area but terminated north of Logan Avenue, based on the alternatives being considered at that time. The results indicate that the ground south of the rail line is composed of chaotic fill and thick rubble, while the subsurface north of the rail line may include buried foundation walls or utilities (see Figures 5 to 8 in the geophysics report).

5.9.1.4 DRAFT Phase II Environmental Site Assessment

Soil sampling was conducted north of the rail line, in the portion of the Downingtown Train Station Project area that is proposed to include a drop off loop and elevator towers (see Figure 3 of the Phase II report). Non-residential criteria for soils were not exceeded in this area (see Figure 3 of Attachment G).

5.9.1.5 Site Contamination Analysis

The 2008-2014 studies, as well as pertinent PADEP file review records, are attachments in the “Site Contamination Analysis.” This document is enclosed as Appendix G and also includes mapping to illustrate identified soil and groundwater contamination, phone logs with the PADEP, a discussion of environmental liability management, and recommended next steps.

The “Site Contamination Analysis” noted that groundwater contamination would not be of concern, since the area is served by public water. Also, vapor intrusion is not a concern, because no volatile organic contaminants were detected in the proposed project area.

Because some level of soil contamination exists within the project areas, it is recommended that health and safety plans be developed to protect construction workers and to appropriately manage excavated soils during the construction period. It is also recommended that a pre-application meeting be held with PADEP prior to construction to discuss any required permitting including stormwater management plans. Site and land development plans should be developed to consider elimination of exposure pathways to any remaining contaminated soil. This elimination of exposure can be cost-effectively accomplished by parking lot and building placement over areas of remaining contamination. Finally, if residential end-uses are to be

included in the redevelopment effort, levels of remaining soil contamination will have to be re-evaluated against residential cleanup standards.

It is important to note that none of the previous environmental studies focused on either asbestos-containing materials (ACM) or lead-based paint in the remaining buildings within the footprint of the proposed development area. All remaining buildings should be evaluated for the presence of ACM and lead-based paint prior to either demolition or reuse of the buildings.

5.9.2 Environmental Liability Management

Since the Act 2 process was never completed for the subject properties, there are currently no liability protections in place which would normally be transferred to any new owner of the property. However, Act 3 of 1995 - *Economic Development Agency, Fiduciary and Lender Environmental Liability Protection Act*, was a companion bill to the Act 2 of 1995 which established the PA Land Recycling Voluntary Cleanup Program. Act 3 offers statutory liability protection to public sector entities who take title to a brownfield property for redevelopment purposes including “Any other Commonwealth or municipal authority which acquires title or an interest in property” (as per Section 3, Item 5 under Definition of Economic Development Agencies). Currently, PennDOT anticipates that this project will be completed via a Public Private Partnership. Under Act 3, PennDOT should be protected from environmental liability (within the limits of Acts 2 and 3) should they decide to take ownership of the property for redevelopment in a Public Private Partnership scenario. Act 3 protection would not automatically be extended to the Private Sector partner.

PADEP has historically offered options to “pre-assign” environmental liability during real estate transactions. For example, Buyer-Seller Agreements are Tri-Party agreements that include PADEP as the 3rd party to the Buyer and Seller to delegate environmental liability and allow redevelopment to occur while any remedial measures are put in place. In addition, PADEP often allows redevelopment to occur prior to remediation when remedial measures, such as parking lots and building structures, will occur as part of site development. It is recommended that PADEP Chief Counsel be consulted to develop a tool to manage environmental liability in a Public Private Partnership arrangement.

5.9.3 Recommended Next Steps

Since actual environmental liability is highly dependent on property ownership, site design, and intended end uses, it is recommended that any future site designs and proposed end uses be coordinated with known environmental conditions. This coordination is especially critical since the Act 2 process has not been completed and no Relief of Liability has been attained for the River Station properties. For a private sector property owner, it may be prudent to complete the

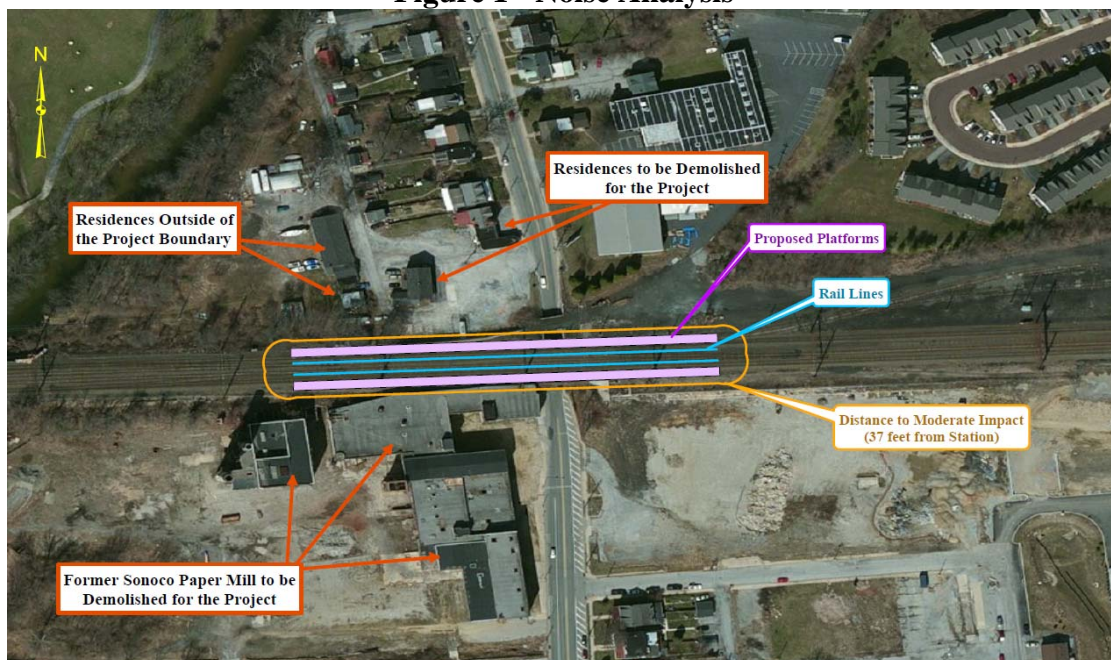
Act 2 process once future development plans have identified the specific end uses at each area of concern within the River Station properties.

With regard to a Public Private Partnership structure, it is recommended that environmental liability be “assigned” during the contracting of any real estate transaction. If PennDOT intends to take ownership of the brownfield properties, it is recommended that a specialist in brownfield real estate transactions be contracted to assist in drafting the sales agreement in a manner that also manages the assignment of environmental liability protection.

5.10 Noise and Vibration

Vibration impacts were not assessed for this project, because there will be no alterations to or relocation of the track. The general assessment methodology as described in the FTA’s *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06) manual was used to determine noise impacts for this project. Because sensitive receptors (residences) were within the unobstructed screening distance for a commuter rail station without horn blowing (250 feet), a quantitative noise analysis was conducted. Based on the Downtown Train Station operating characteristics, and equations and methodology set forth in the FTA manual, the proposed station would result in moderate noise impacts within approximately 37 feet from the station (see Figure 1 below). Since there are no noise sensitive receptors within this distance, no impacts per FTA’s Noise and Vibration guidance would occur. The noise analysis is enclosed as Appendix H.

Figure 1 - Noise Analysis



5.11 Historic and Cultural Resources

Cultural resources studies and coordination are being completed in compliance with the National Historic Preservation Act of 1966 as amended, Executive Order 11-593, the Archaeological and Historic Preservation Act of 1974, and Commonwealth of Pennsylvania Acts 1970-120 and 1978-273. As part of this effort, FTA has engaged in consultation with the Pennsylvania Historical and Museum Commission (PHMC), which acts as the State Historic Preservation Office (SHPO) in Pennsylvania.

The Area of Potential Effects (“APE”) for the Project is centered on the Brandywine Avenue underpass and roughly bounded by West Boot Road to the south, Chester Alley to the north, Brandywine Creek to the west, and Reed street to the east. The APE encompasses the proposed limits of disturbance, including the platforms, access, and parking. The APE also includes a visual buffer surrounding the proposed project.

A preliminary Historic Resources Survey examined all buildings and structures in the APE which may be impacted by the proposed action. In total, 22 above-ground resources were identified within or adjacent to the APE and evaluated for eligibility to the National Register of Historic Places. One resource, the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) was previously determined eligible for listing in the National Register of Historic Places. The Frank P. Miller Paper Company/Downingtown Paper Box Company and The Torbert Dwelling were determined eligible for listing in the National Register of Historic Places. SHPO requested additional information for review and consideration, so these recommendations should not be considered final.

PennDOT recommends that the Downingtown Train Station Project will have no effect on The Torbert Dwelling but will adversely affect the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and the Frank P. Miller Paper Company/Downingtown Paper Box Company.

Additionally, the southeast portion of the APE, east of Brandywine Avenue and generally south of Logan Avenue, exhibits a moderate to high potential for containing intact soils with cultural deposits, so a Phase I archaeological survey will be conducted for this portion of the APE.

Federally recognized tribes, Consulting Parties, and the Advisory Council on Historic Preservation were invited to participate in the process. Also, a Programmatic Agreement is in the process of being executed among the FTA, PennDOT, and SHPO. Per the Programmatic Agreement, FTA will provide additional documentation to the SHPO, will complete a Phase IA Archaeological Assessment, and will implement mitigation measures for above-ground and archaeological resources, as applicable. The fully executed Programmatic Agreement is enclosed

as Appendix I, which includes the process by which identification, eligibility, and effect determinations will be made by FTA, PennDOT, and SHPO.

5.12 Recreational

The only public recreational resources within or adjacent to the project area are the Johnsontown Park and the Brandywine Trail. This 13.9 acre park includes soccer fields, basketball courts, picnic pavilions, playground facilities, and the southern terminus of the Brandywine Trail. The Brandywine Trail is a paved, Borough-owned trail that runs through Johnsontown Park and continues north along East Branch Brandywine Creek to connect with the Kerr Park Trail.

Because east/west pedestrian and bicycle access in this area is lacking, Downingtown Borough requested that a pedestrian bridge be included in the new station design. This bridge will span from the Brandywine Trail in Johnsontown Park to a proposed shared use bike path in the southwest train station parking lot.

5.13 Section 4(f) Resources

Section 4(f) of the U.S. Department of Transportation Act protects certain resources, including publicly owned wildlife and waterfowl refuges, publicly owned park and recreation areas that are open to the general public, and public or privately owned historic sites.

The proposed project includes a pedestrian bridge connecting the new station shared use bike path to the existing Brandywine Trail in Johnsontown Park, and the existing trail and park qualify as Section 4(f) resources. However, FTA has concurred that the proposed pedestrian bridge is eligible for an exception to the requirement for Section 4(f) approval under 23 CFR 774.13(d). Further information about the Section 4(f) exception is provided in Appendix J.

PennDOT recommends that the Downingtown Train Station Project will adversely affect the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and the Frank P. Miller Paper Company/Downingtown Paper Box Company, which were both determined eligible for listing in the National Register of Historic Places. A Section 4(f) Evaluation is provided in Appendix J.

5.14 Threatened and Endangered Species

The United States Endangered Species Act (ESA) of 1973, as amended, provides protections for those species that are listed as threatened or endangered under the ESA. The Act grants the United States Fish and Wildlife Service (USFWS) primary responsibility in administering the species designations and protections granted under the ESA. “Endangered” denotes that a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” denotes that a species is likely to become endangered in the foreseeable future. Threatened and

endangered species receive federal and state protection in an attempt to return the species' population to self-sustaining levels. A Special Concern Species or Resource is a plant or animal species classified as rare, tentatively undetermined, or a candidate; as well as other species of conservation concern, significant natural communities, special concern populations (plants or animals), and unique geologic features. A Sensitive Species is identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

A Pennsylvania Natural Diversity Inventory (PNDI) assessment was completed for the Project Study Area. The results indicate that no threatened or endangered plants or animals under the jurisdiction of the USFWS, the DCNR, the PFBC, or the Pennsylvania Game Commission are known to exist within the Project Study Area. Therefore, no further coordination is required with these agencies based on the PNDI search. See Appendix K for the PNDI Project Environmental Review Receipt dated May 11, 2015.

Note that regardless of PNDI search results, projects requiring a Chapter 105 PADEP individual permit or general permit (GP) 5, 6, 7, 8, 9 or 11 in certain counties (including Chester County) must comply with the bog turtle habitat screening requirements of the Pennsylvania State Programmatic General Permit (PASPGP). Therefore, a Phase I Bog Turtle Habitat Assessment Survey and coordination with the USFWS may be required, due to the identification of wetlands outlined in the Waterway and Wetland Delineation Report. If a Phase I or Phase II Bog Turtle Survey is necessary, then the services of a USFWS qualified bog turtle surveyor will be required and the survey will need to be submitted as part of the anticipated Chapter 105 waterway permit.

5.15 Safety and Security

There will be one emergency “blue light” phone per platform as well as closed circuit television cameras. Platforms will also include a two-foot wide tactile warning strip, four inch painted yellow safety stripe with painted warning message, and adequate lighting. The elevator emergency call boxes will be programmed to call the local police department, and Knox boxes for fire department keys will be designed into the tower walls for the benefit of emergency responders. One portable fire extinguisher will be placed in each of the four elevator/stairway towers. Also, all safety codes will be followed, such as including fire alarm systems in elevator shafts, using noncombustible construction for pedestrian walkways, and providing emergency egress. Pedestrian safety will be improved by the replacement of the Amtrak Bridge over Brandywine Avenue with a wider structure to allow for walkways and a buffer (shoulder) between vehicles and pedestrians. The station will be ADA-compliant.

5.16 Construction

Temporary impacts related to construction of the proposed project will be typical, anticipated impacts associated with this type of construction project and will cease immediately after the activity is completed. Construction activities will follow federal, state, and local statutes, regulations, and ordinances, as applicable, and the proper permits will be obtained and followed.

Increased noise and vibration from construction activities may be expected during construction but will be temporary. A temporary decrease in local air quality can also be expected due to the atmospheric dispersion of dirt, dust, and other fine particulates that are commonly associated with the construction process. In order to prevent any significant impacts to water quality during construction, a NPDES permit application will be completed, as applicable. Mitigation measures, if applicable, will be confirmed during the final design phase of the project when the details of the project components and the construction phasing have been finalized.

It is anticipated that final design will span from September 2016 to December 2017, and demolition will start in May 2018. Construction staging will occur primarily on the parcels acquired south of the rail line, and the station will be constructed before the parking is constructed.

5.17 Cumulative and Indirect Impacts

5.17.1 Cumulative Impacts

A “cumulative impact” is the impact on the environment that results from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts may include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or resulting from smaller actions that individually have no significant impact. Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern.

Projects that have been recently completed or are underway throughout Amtrak's Keystone Corridor East (Philadelphia to Harrisburg), include:

- infrastructure program to repair bridges, construct new power substations, install continuous welded rail and concrete ties, and improve communication and signaling systems (completed in 2006)
- upgrades to the Lancaster, Elizabethtown, and Mount Joy train stations (Lancaster and

Elizabethtown construction completed in 2013, Mount Joy to be bid in 2016)

- three at-grade crossing eliminations in Lancaster County (construction completed in 2014)
- signal system upgrades (proposed from Philadelphia to Paoli, underway from Paoli to Parkesburg, completed from Parkesburg to Harrisburg) and catenary/transmission line replacement (proposed from Philadelphia to Paoli)
- interlocking improvements at several locations throughout the Keystone Corridor East (in various stages from planning to construction)
- proposed relocation or upgrade of the Philadelphia, Ardmore, Villanova, Paoli, Exton, Coatesville, Parkesburg, Middletown, and Harrisburg train stations (planning or design underway)

The infrastructure, at-grade crossing, signal system/catenary/transmission line, and interlocking projects will improve reliability, speed, and/or safety on the Keystone Corridor East (Philadelphia to Harrisburg). The station projects will bring facilities into ADA compliance and will enhance customer amenities. All of these improvements are expected to encourage the transit-oriented development already occurring around stations and to increase ridership. In summary, all of these projects, including the proposed Downingtown Train Station Project, are anticipated to have positive cumulative impacts.

A National Environmental Policy Act (NEPA) document, or the state equivalent, was completed or will be required for each of the above-referenced projects. This process requires that any negative impacts be minimized and mitigated. For work that potentially has limited federal or state environmental documentation, such as the transit-oriented development around train stations with strong ridership, it is assumed that local review boards will review and require mitigation for resultant impacts to water, sewer, and traffic.

5.17.2 Indirect Impacts

“Indirect impacts” are those that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

A private mixed-use development called River Station is proposed adjacent to the new train station, on the site of the former Sonoco paper mill. This private development has funding and permitting completely separate from the Downingtown Train Station Project examined in this

document, and it is assumed that local review boards will review and require mitigation for resultant impacts to water, sewer, and traffic.

5.18 Public Involvement

PennDOT and its consultants conducted stakeholder interviews with Downingtown area community leaders, municipal officials, and civic organization representatives August 30-31, 2011. The project team conducted a total of 18 interviews to discuss:

- what perceptions the individuals had regarding redevelopment within the Borough
- what opportunities would be presented by investment in the station
- how to enhance the station
- how to connect the station to downtown and the region
- how to improve access and mobility
- how to leverage the investment to improve the Downingtown economy

PennDOT and its consultants held a community design charrette at the Downingtown Borough Hall October 24-27, 2011. Activities included:

- discussion of suggestions made during stakeholder interviews
- solicitation of input regarding
 - what is valued about Downingtown
 - what opportunities are perceived for the Borough
 - what opportunities exist for wayfinding and streetscaping in the Borough
 - how to enhance the station
 - how to connect the station to downtown and the region
 - how to improve access and mobility
 - how to leverage the investment to improve the Downingtown economy
- visioning exercises
- informal design sessions for all alternatives discussed in this Environmental Assessment

Also, meetings were held between PennDOT and the owner/agents of the River Station properties on October 17, 2012, and October 22, 2012.

PennDOT made presentations at regular sessions of the Downingtown Borough Council on June 6, 2012, and February 6, 2013, to discuss the project history, purpose and need, goals, alternatives analysis, environmental screening, conceptual engineering and right-of-way, and next steps. These meetings were open to the public, and a representative of the Johnsontown Community Group attended the meeting on February 6. Project designers are taking into consideration the Johnsontown neighborhood, which is located just south of the existing station.

A connection will be made between the Johnstown neighborhood and the new station via a proposed pedestrian bridge over East Branch Brandywine Creek.

In addition to these meetings, the public is able to view information about the existing Downingtown Train Station as well as the proposed project at <http://planthekeystone.com/downingtown.html>. This website includes extensive information about access and amenities at the existing station through the access the Keystone link; numerous links to recent newspaper articles about the proposed project; and several attachments such as planning documents and meeting presentations. The public is able to provide comments to PennDOT via the website as well. In addition to public notification of the availability of this website during other Keystone Corridor projects in the past, this website was made known to the public during the Downingtown charrette and the Downingtown Borough Council presentations and is posted on the Downingtown Borough website “Government & Community Links” page (as of August 8, 2016).

5.19 Mitigation Measures

Several mitigation measures are proposed for the Downingtown Train Station Project, as follows:

- Per the Borough zoning code for the floodplain district, a use and occupancy permit will be obtained during the final design process.
- A special exception will be requested from the Zoning Hearing Board, to permit a footbridge in the floodway.
- All requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 will be met, and property owners will receive fair market value for their property.
- PennDOT will re-assess the Transportation Impact Study (Michael Baker Jr. Inc., November 2014) recommendations as they relate to the final design of the project and will implement as appropriate.
- Coordination will be conducted with the PFBC regarding the requirement of an ATON plan.
- It is anticipated that the project will require authorization through a Chapter 105 waterway permit from the PADEP and a Section 404 permit from the USACE. Although the project will likely impact the delineated wetlands, since both wetlands are isolated and below the PADEP de minimus area of 0.05 acres, mitigation is not anticipated. Opportunities to avoid or minimize impacts to regulated resources will be examined. The

proposed stormwater BMP outfalls draining to Tributary 1 in the southwest quadrant appear to meet the requirements for a Permit Waiver.

- A PA DEP NPDES permit will be coordinated per Chapter 102 code.
- Because some level of soil contamination exists within the project areas, it is recommended that health and safety plans be developed to protect construction workers and to appropriately manage excavated soils during the construction period. It is also recommended that a pre-application meeting be held with PADEP prior to construction to discuss any required permitting including stormwater management plans. Site and land development plans should be developed to consider elimination of exposure pathways to any remaining contaminated soil. This elimination of exposure can be cost-effectively accomplished by parking lot and building placement over area of remaining contamination. Finally, if residential end-uses are to be included in the redevelopment effort, levels of remaining soil contamination will have to be re-evaluated against residential cleanup standards.
- None of the previous environmental studies focused on either ACM or lead-based paint in the remaining buildings within the footprint of the proposed development area, so all remaining buildings should be evaluated for the presence of ACM and lead-based paint prior to either demolition or reuse of the buildings.
- With regard to a Public Private Partnership structure, it is recommended that environmental liability be “assigned” during the contracting of any real estate transaction. If PennDOT intends to take ownership of the brownfield properties, it is recommended that a specialist in brownfield real estate transactions be contracted to assist in drafting the sales agreement in a manner that also manages the assignment of environmental liability protection. PADEP Chief Counsel can also be consulted to develop a tool to manage environmental liability in a Public Private Partnership arrangement.
- Mitigation measures specific to cultural resources, will be developed through the Section 106 process in coordination with FTA, PennDOT, and SHPO.
- A bog turtle habitat assessment conducted by a qualified bog turtle surveyor may be required and submitted as part of the Chapter 105 waterway permit.

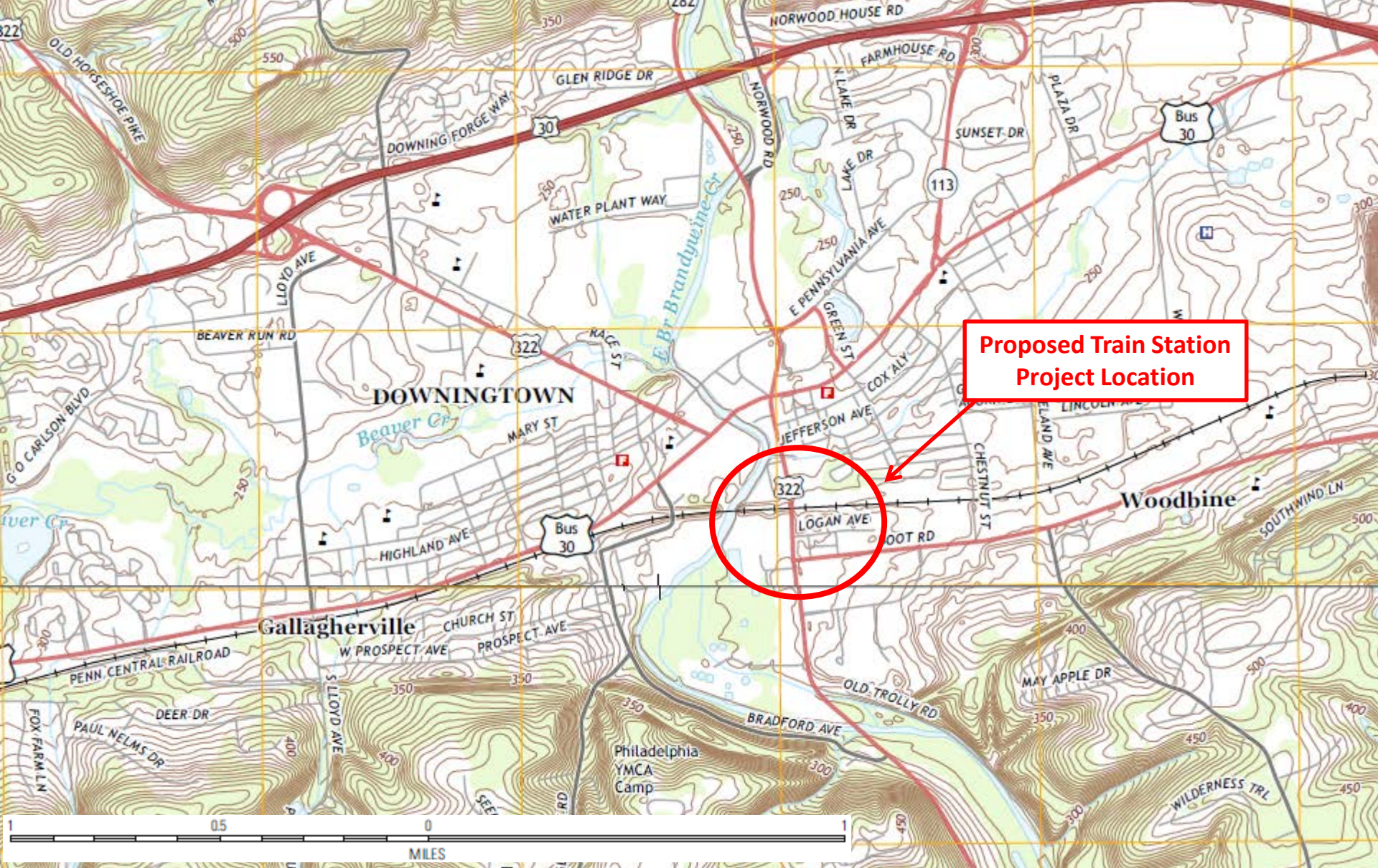
6.0 Conclusion

The Downtown Train Station Project will not involve any significant environmental impacts to socio-economic, natural, or cultural resources. It will not induce significant alterations in land use or affect planned growth and will not significantly impact air quality, noise levels, or travel patterns.



Appendix A

Location Maps



**Downingtown Train Station Project
Proposed Project Location
Downingtown Borough, Chester County**

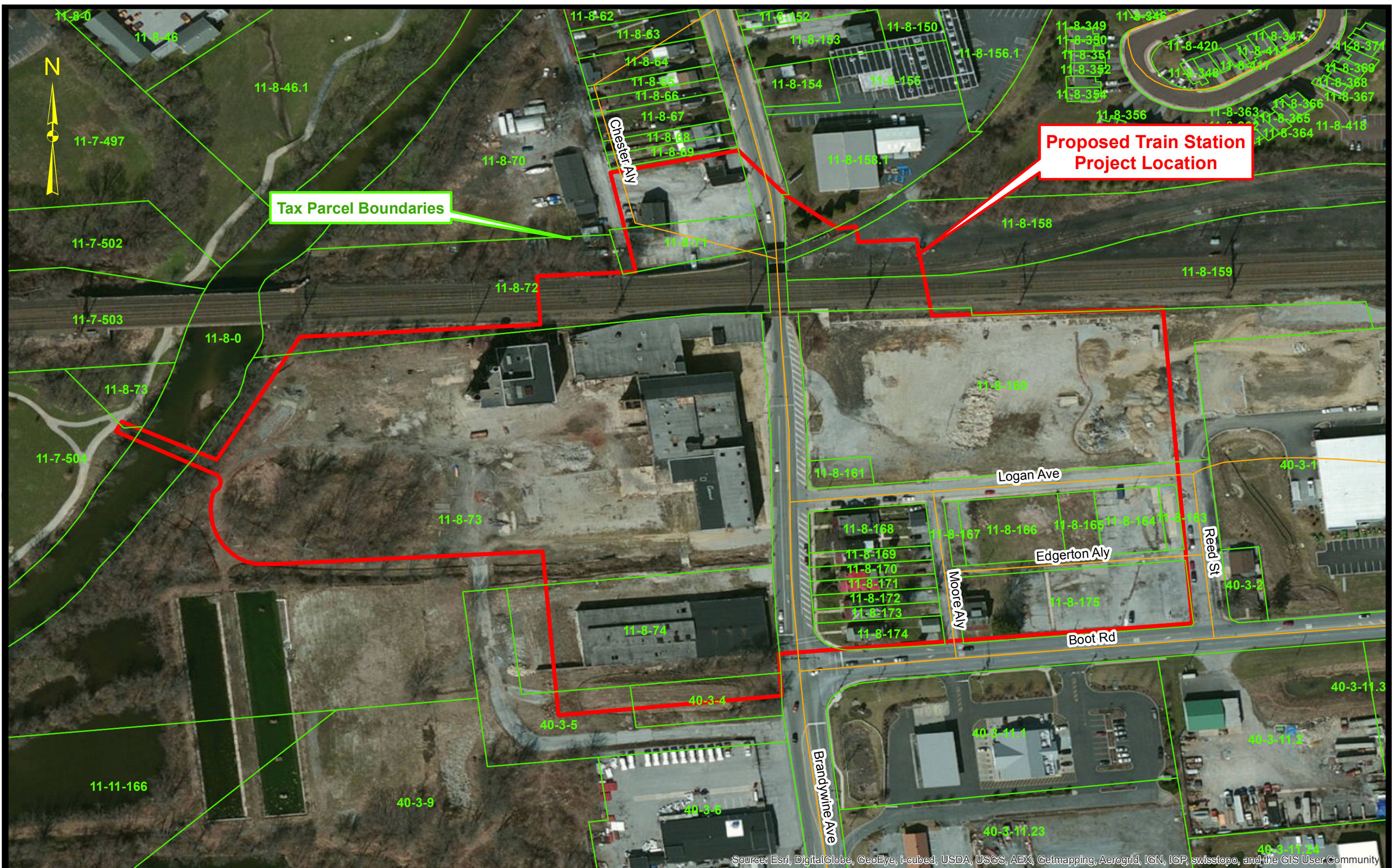


Michael Baker
INTERNATIONAL



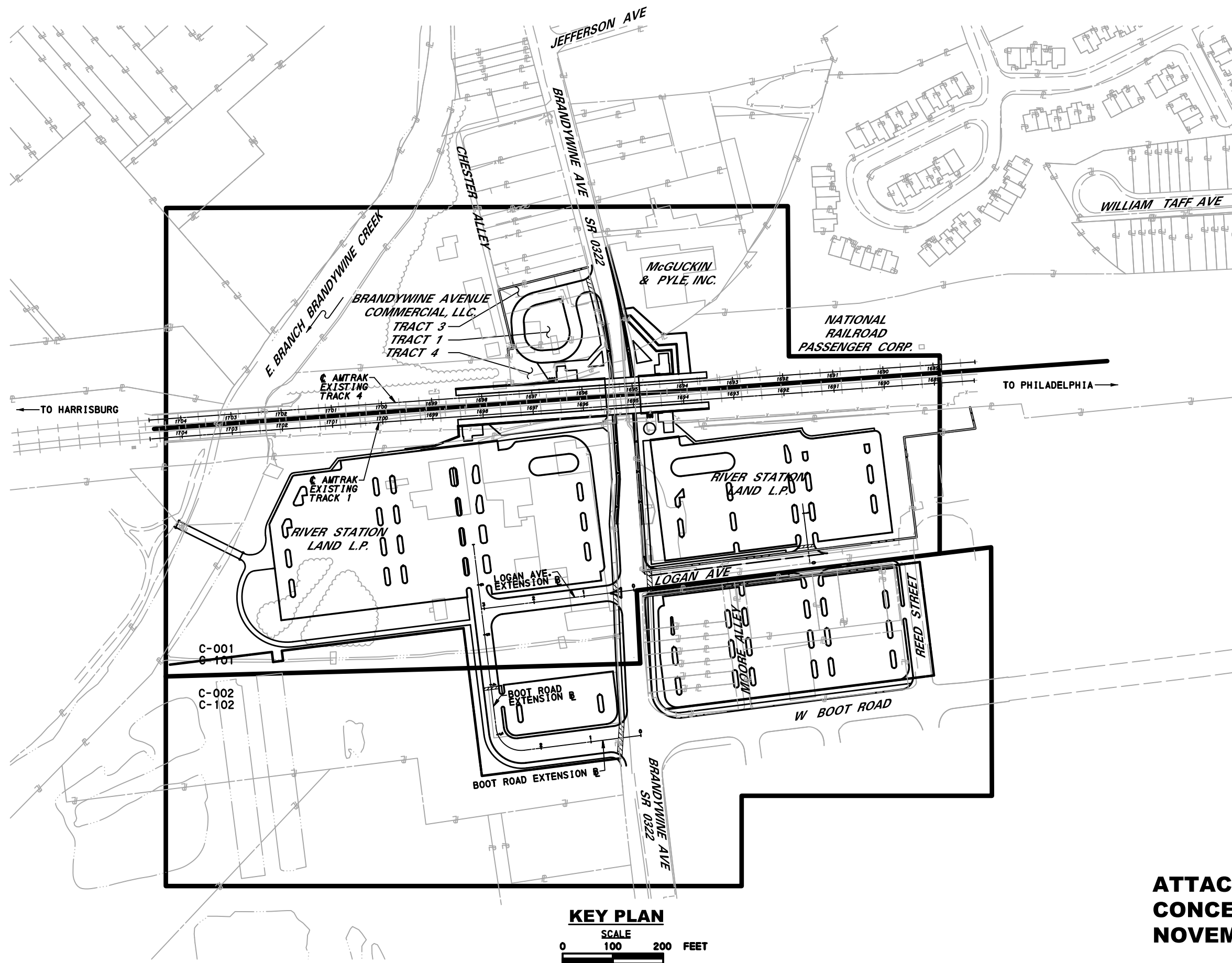
**Downingtown Train Station Project
Existing and Proposed Train Station Locations
Downingtown Borough, Chester County**

Michael Baker
INTERNATIONAL



Downingtown Train Station Project
Approximate Work Area
Downingtown Borough, Chester County

Michael Baker
INTERNATIONAL



KEY PLAN
SCALE
0 100 200 FEET

**ATTACHMENT A
CONCEPTUAL PLAN
NOVEMBER, 2014**

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No.	Revisions	Date	By



Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

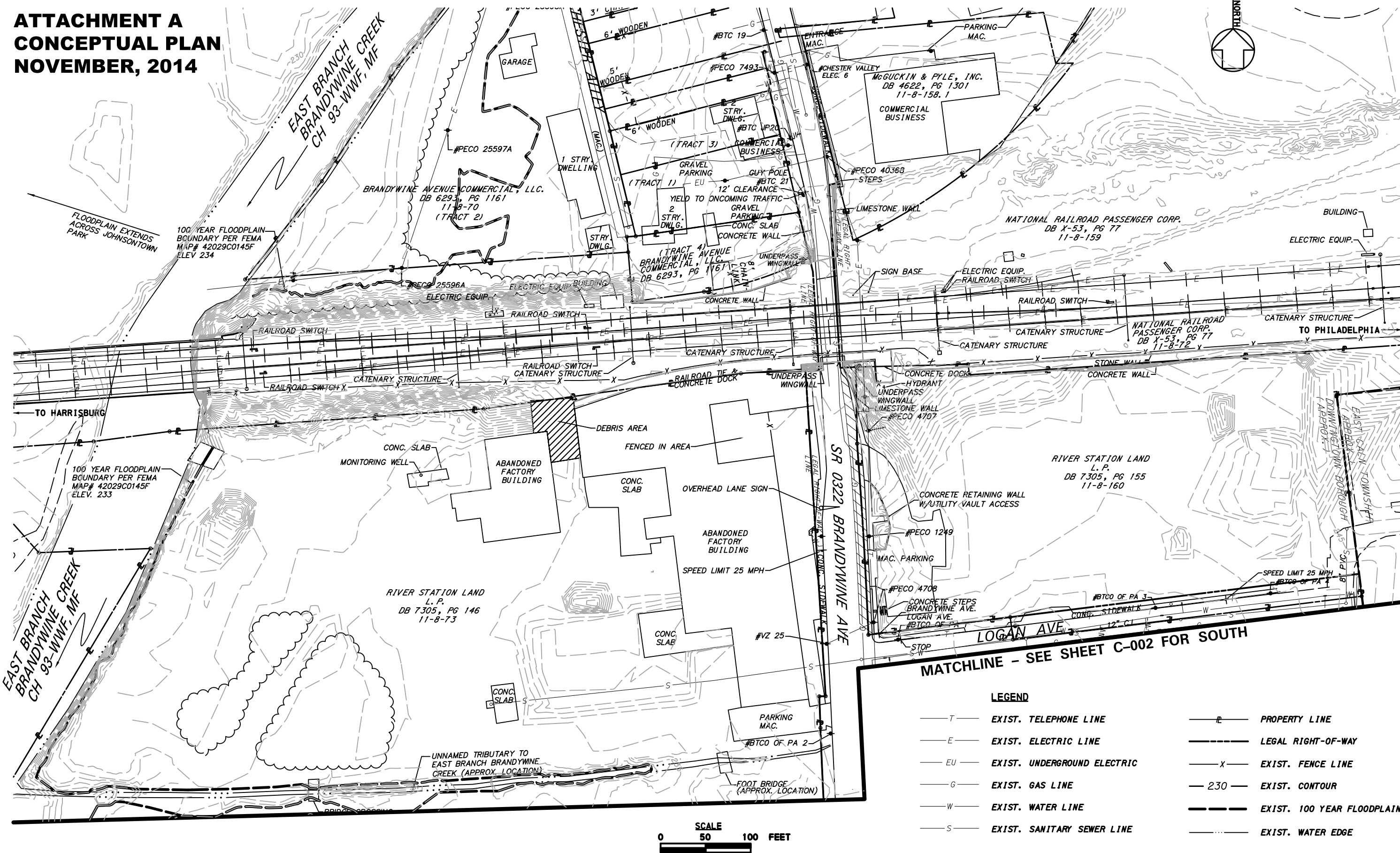
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CONCEPTUAL SUBMISSION



DOWNINGTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNINGTOWN STATION RELOCATION KEY PLAN				Job No: File Name: Sheet No. 6 OF 82 Job No. G-003
Designed	JLH	Drawn	EAR	Checked CMV Date 11/10/14

ATTACHMENT A
CONCEPTUAL PLAN
NOVEMBER, 2014



No.	Revisions	Date	By



Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION



DOWNINGTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNINGTOWN STATION RELOCATION				Job No:	
EXISTING CONDITIONS - NORTH				File Name:	
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				at	C-001

ATTACHMENT A
CONCEPTUAL PLAN
NOVEMBER, 2014

LEGEND

- T

EXIST. TELEPHONE LINE
- E

EXIST. ELECTRIC LINE
- EU

EXIST. UNDERGROUND ELECTRIC
- G

EXIST. GAS LINE
- W

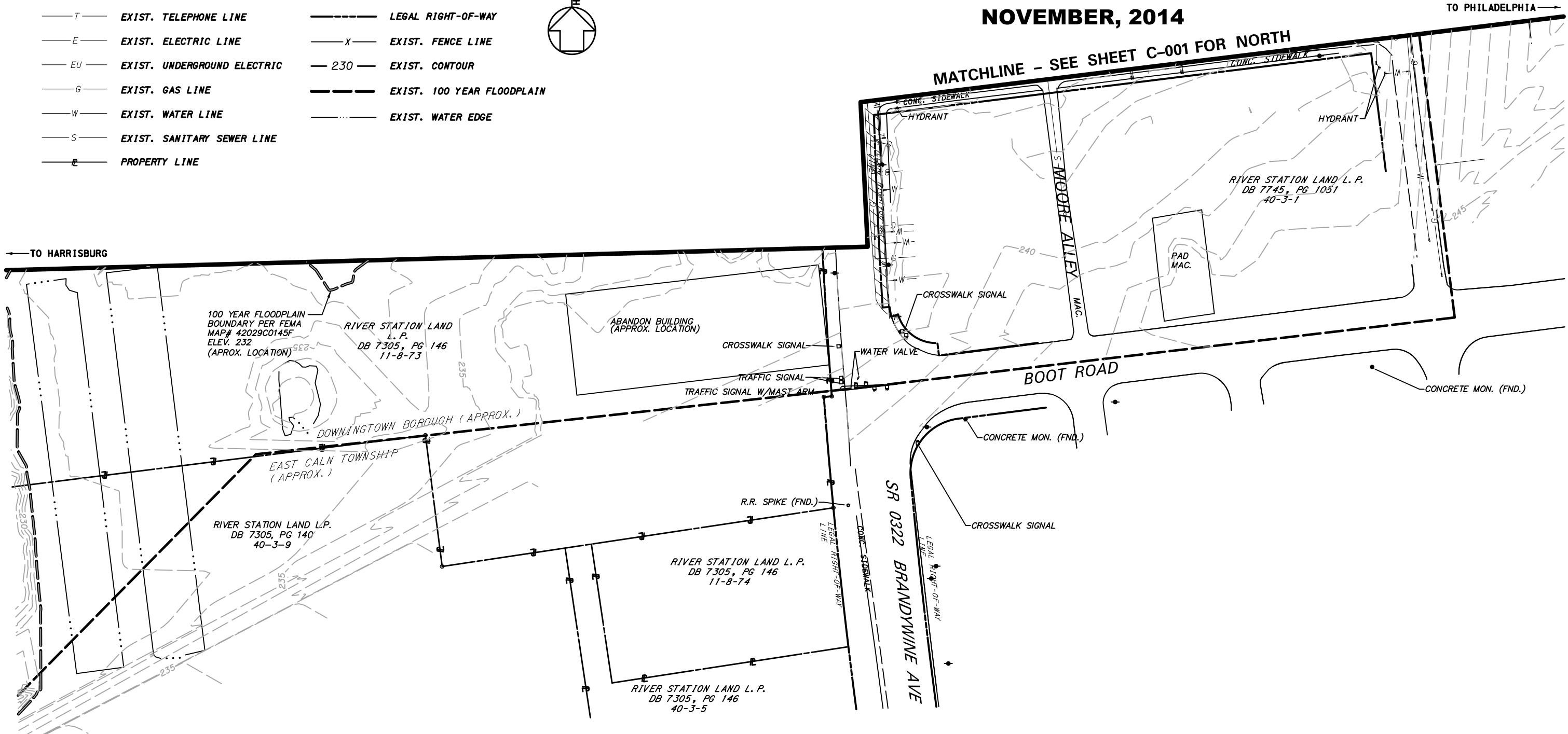
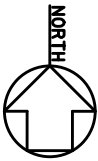
EXIST. WATER LINE
- S

EXIST. SANITARY SEWER LINE
- PL

PROPERTY LINE
- LEGAL RIGHT-OF-WAY
- X

EXIST. FENCE LINE
- 230

EXIST. CONTOUR
- EXIST. 100 YEAR FLOODPLAIN
- EXIST. WATER EDGE



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Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION

Baker

DOWNINGTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNINGTOWN STATION RELOCATION			
EXISTING CONDITIONS - SOUTH			
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Checked	CMV	Date	11/10/14

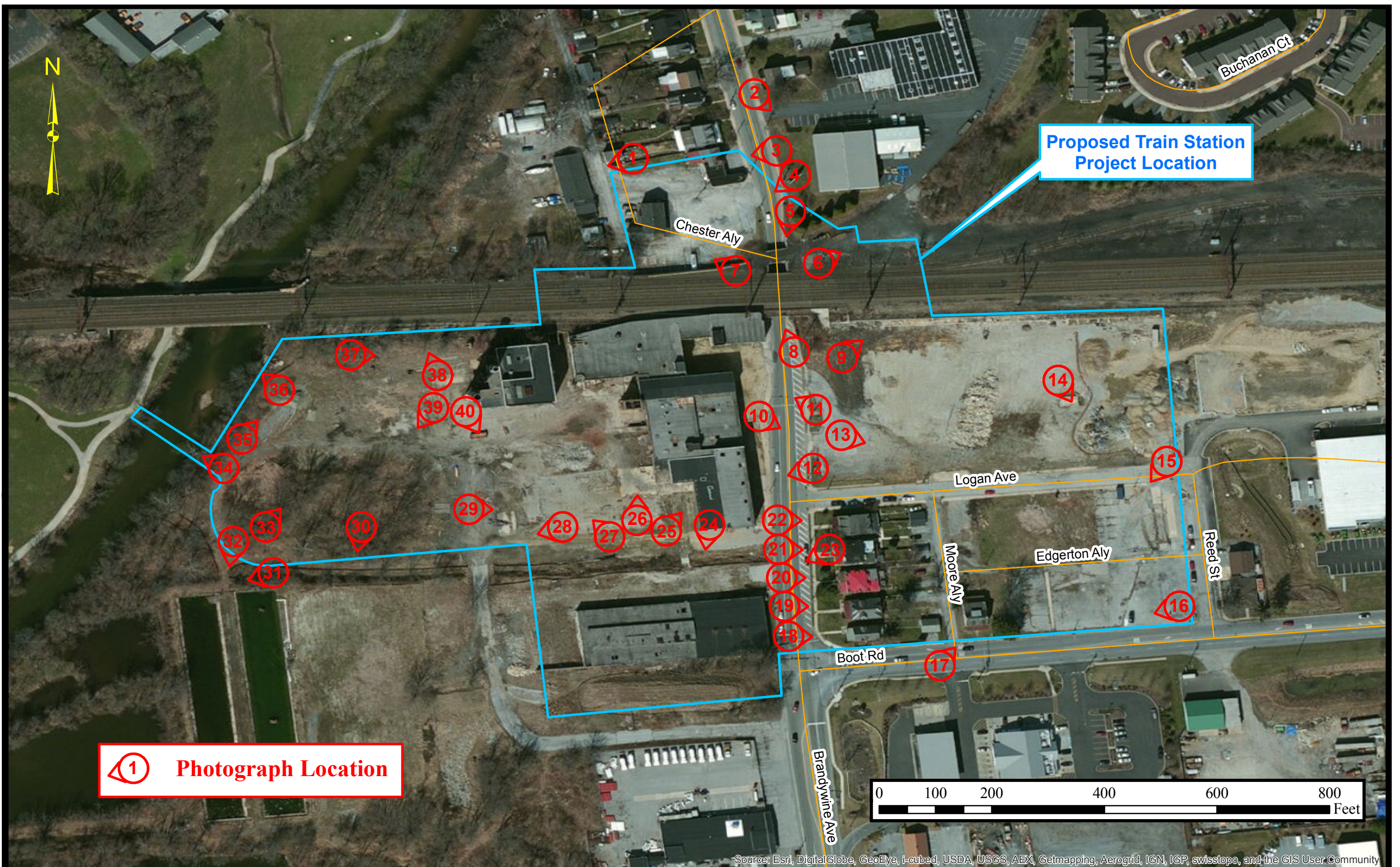
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Appendix B

Photograph Log



**Downingtown Train Station Project
Photograph Location Map
Downingtown Borough, Chester County**

Michael Baker
INTERNATIONAL

Downingtown Train Station Project



Photograph 1: View of what appeared to be an apartment building within Parcel #11-8-70, facing west.



Photograph 2: View of McGuckin & Pyle Inc. building within Parcel #11-8-158.1, facing southeast.

Downingtown Train Station Project



Photograph 3: View of Gaydos Granite & Tile and attached residence within Parcel #11-8-70, facing west.



Photograph 4: View of parking area adjacent to rail line within Parcel #11-8-71, facing southwest.



Photograph 5: View of Brandywine Ave. tunnel under rail line, facing south.



Photograph 6: View of vacant area adjacent to rail line within Parcel #11-8-158, facing northeast.



Photograph 7: View of residence to be acquired and demolished within Parcel #11-8-71, facing northwest.



Photograph 8: View of south side entrance to Brandywine Ave. tunnel, facing north.



Photograph 9: View of barrier wall on south side of rail line within Parcel #11-8-160, facing northeast.



Photograph 10: View of vacant area within Parcel #11-8-161, facing southeast.



Photograph 11: View of vacant building within Parcel #11-8-73, facing northwest.



Photograph 12: View of vacant building within the southeast corner of Parcel #11-8-73, facing southwest.



Photograph 13: View of vacant gravel lot within Parcel #11-8-160, facing southeast.



Photograph 14: View of building remnants within vacant Parcel #11-8-160, facing southeast.



Photograph 15: View of residences along Logan Ave. within Parcel #11-8-164, facing southwest.



Photograph 16: View of vacant area within Parcel #11-8-175, facing west.



Photograph 17: View of residence at Boot Rd. and Moore Alley within Parcel #11-8-175, facing northeast.



Photograph 18: View of vacant building along Brandywine Ave. within Parcel #11-8-174, facing east.



Photograph 19: View of vacant residence along Brandywine Ave. within Parcels #11-8-173 and #11-8-172, facing east.



Photograph 20: View of vacant residence along Brandywine Ave. within Parcels #11-8-171 and #11-8-170, facing east.



Photograph 21: View of vacant residence along Brandywine Ave. within Parcel #11-8-169, facing east.



Photograph 22: View of vacant residence along Brandywine Ave. within Parcel #11-8-168, facing east.



Photograph 23: View of vacant building within Parcel #11-8-74, facing southwest.



Photograph 24: View of Unnamed Tributary to East Branch Brandywine Creek within Parcel #11-8-73, facing southwest.



Photograph 25: View of vacant building within the southeast corner of Parcel #11-8-73, facing northeast.



Photograph 26: View of vacant building complex within Parcel #11-8-73, facing north.



Photograph 27: View of vacant building complex within Parcel #11-8-73, facing northwest.



Photograph 28: View of access road to western side of Parcel #11-8-73, facing west.



Photograph 29: View of vacant gravel area within Parcel #11-8-73, facing east.



Photograph 30: View of pipe crossing Unnamed Tributary to East Branch Brandywine Creek within Parcel #11-8-73, facing southwest.

Site Photographs



Photograph 31: View of Unnamed Tributary to East Branch Brandywine Creek within Parcel #11-8-73, facing west.



Photograph 32: View of water impoundments within Parcel #11-8-73, facing south.



Photograph 33: View of concrete pad within Parcel #11-8-73, facing northeast.



Photograph 34: View of area of proposed pedestrian bridge across East Branch Brandywine Creek, facing northwest.



Photograph 35: View of rail line within Parcel #11-8-72, facing northeast.



Photograph 36: View of rail line bridge crossing East Branch Brandywine Creek, facing northwest.



Photograph 37: View of vacant building within Parcel #11-8-73, facing east.



Photograph 38: View of rail line within Parcel #11-8-72, facing north.



Photograph 39: View of vacant area within southwest corner of Parcel #11-8-73, facing southwest.



Photograph 40: View of vacant gravel lot within Parcel #11-8-73, facing southeast.



Appendix C

Conceptual Rendering and Site Plans

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1 VIEW FROM BRANDYWINE LOOKING NORTH
SCALE: NTS

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Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION



DOWNINGTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNINGTOWN STATION RELOCATION			
3D VIEW			
Designed	Drawn JW	Checked JW	Date 08/15/14

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File Name:	
Sheet No.:	OF
Dwg. No.:	A-901

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1 VIEW OF NORTHWEST TOWER LOOKING SOUTH
SCALE: NTS

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National Railroad Passenger Corporation
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DOWNINGTOWN STATION AT SUNSET
SCALE: NTS

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Checked JW				Date	08/15/14

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VIEW AT PLATFORM LEVEL
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National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

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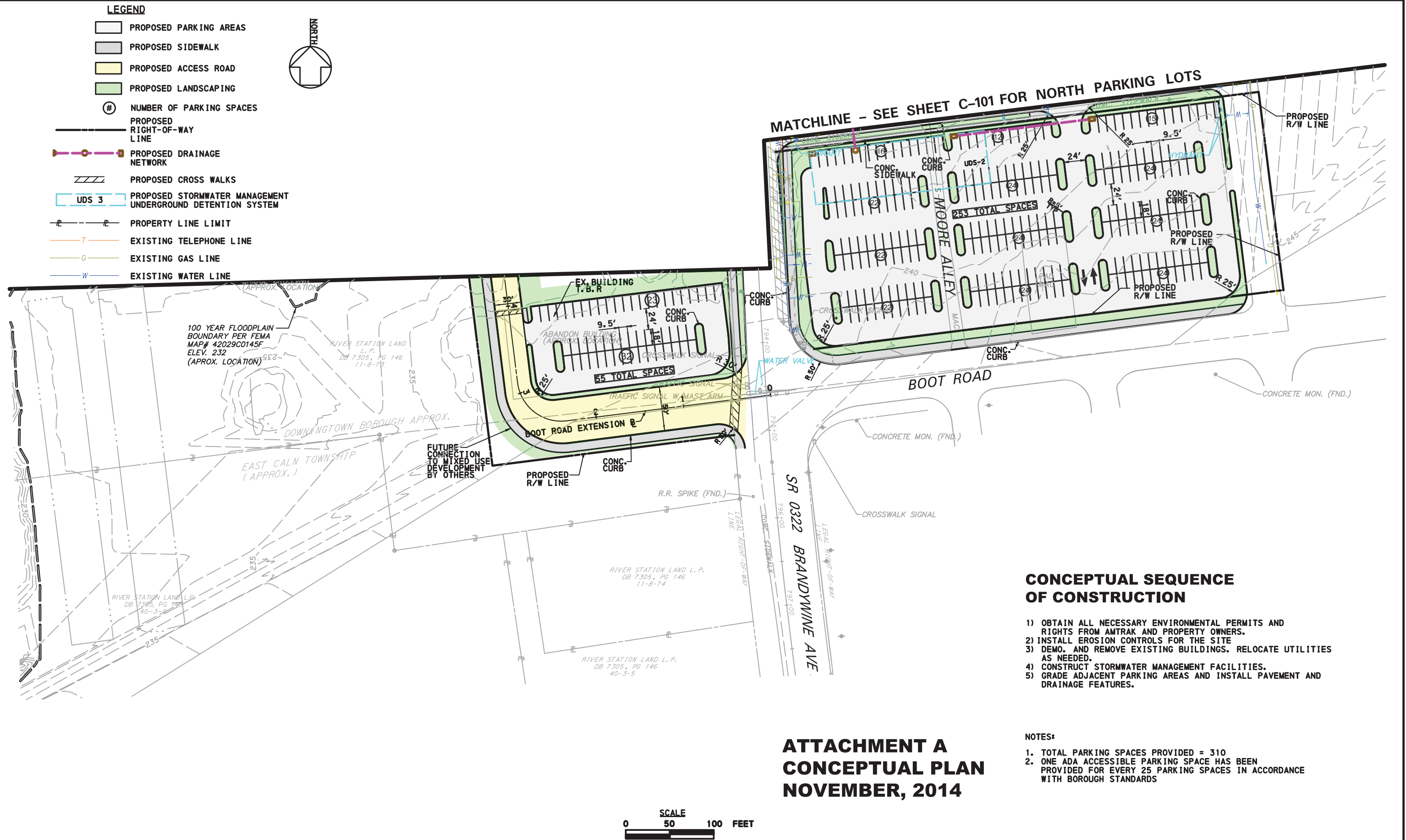
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3D VIEW			
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Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION

Baker

DOWNINGTOWN, PENNSYLVANIA
PENNDOT BPT KEYSTONE CORRIDOR
DOWNINGTOWN STATION RELOCATION
SITE PLAN - SOUTH PARKING LOTS

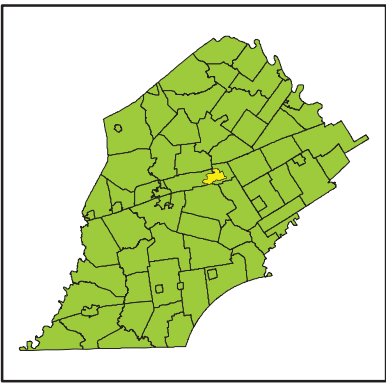
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Appendix D

Zoning Map



Borough Office
4 West Lancaster Av.
Downingtown, PA 19335
www.downingtowntown.org/

Zone	Acres
C-1	58.60
C-2	7.00
C-3	68.89
I-1	71.11
I-2	59.77
I-3	62.59
P	72.47
R-1	239.31
R-2	260.67
R-3	92.62
R-4	365.92
R/C	27.46
TND	36.96
TOTAL	1423.37



Borough of Downingtowntown

Municipal Zoning Map
Zoning Adopted: September 2, 2015
Map Created: October 7, 2015

Zoning Districts

- C-1 - General Commercial
- C-2 - Central Commercial
- C-3 - Highway Oriented Commercial
- I-1 - Limited Industrial
- I-2 - General Industrial
- I-3 - Multi-Purpose
- P - Public Park
- R-1 - Single Family Detached Residential
- R-2 - Single Family Detached Residential
- R-3 - Single Family Detached/
Attached and Two Family Residential
- R-4 - Single Family Detached/
Two Family/Multi-Family Residential
- R/C - Infill Development
- TND - Traditional Neighborhood
Development

Legend

- Adaptive Reuse/Mixed Use Overlay
- Central Business Revitalization Overlay
- Creeks and Streams
- Height Option Zone 1 Overlay
- Height Option Zone 2 Overlay
- Historic Resources
- Kardon Park Redevelopment Overlay
- Lakes and Ponds
- Municipal Boundary
- Parcels
- Woodbine Overlay District
- Woodbine Overlay Commercial Sub District
- Road Centerlines

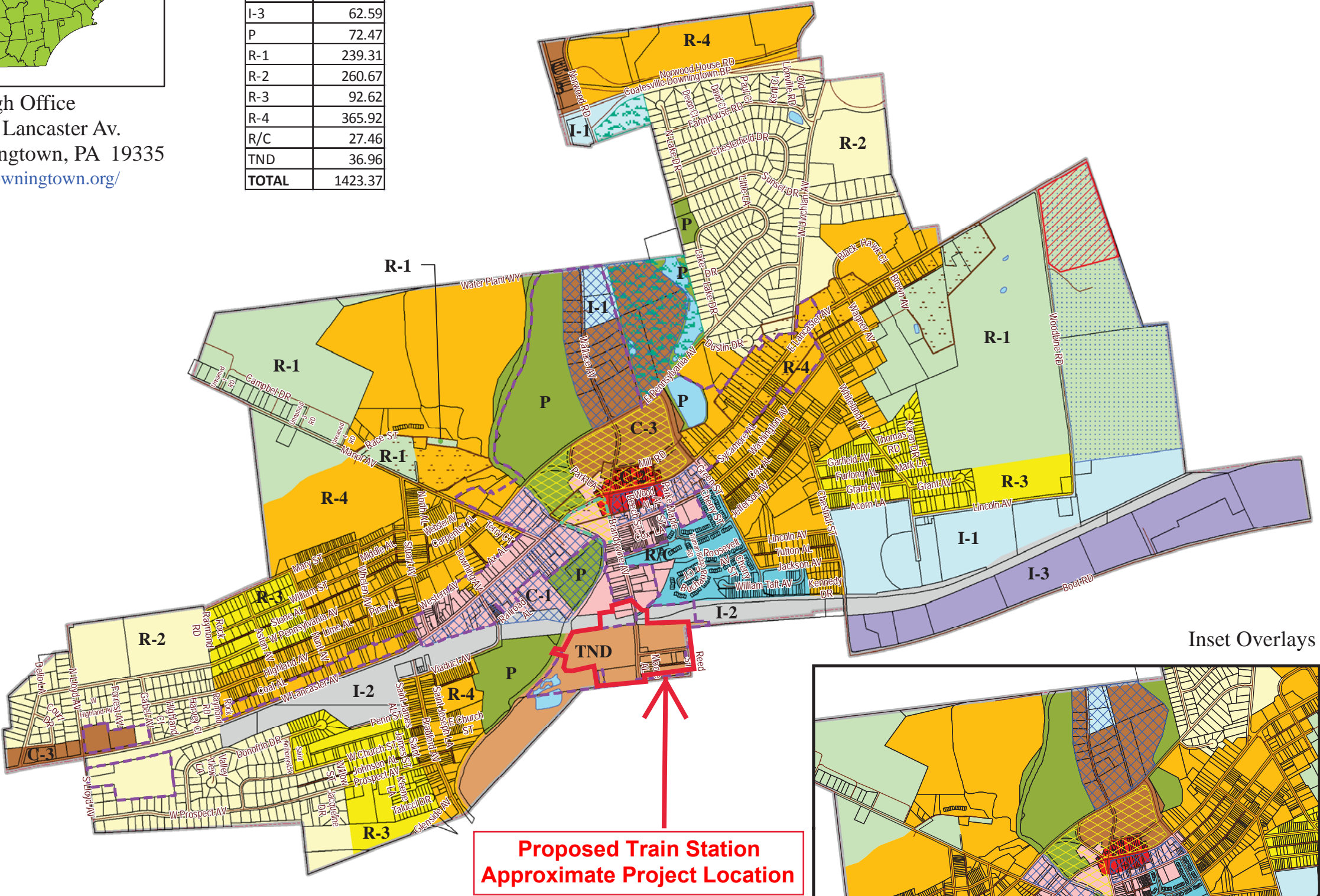
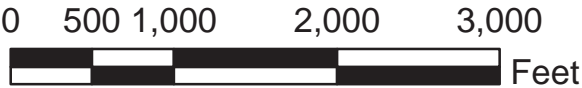
IMPORTANT NOTICE:
The Official Zoning Map in the municipal building shall be the final authority regarding the current zoning status of land, buildings, and other structures.

NOTES: Not for engineering purposes.

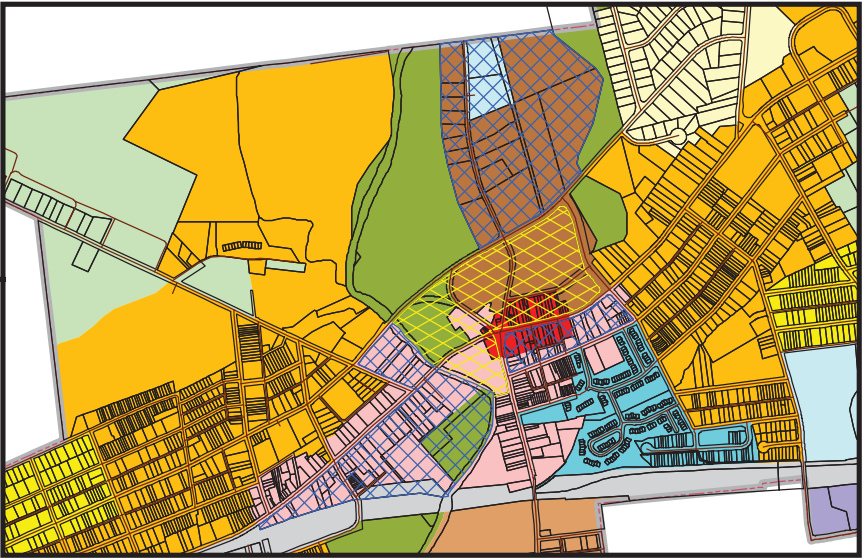
Landbase Source: Planimetric features have been compiled to meet the National Map Accuracy Standard of 1:24,000 scale mapping using first order, fully analytical digital stereoplotters, from aerial photography dated spring 2005, controlled analytically from ground points captured using first order GPS equipment. Planimetric coordinates were based on the PA State Plane Coordinate System South Zone and North American Datum 1983.

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LIMITATION AND LIABILITY OF USE: This map was digitally compiled for internal maintenance and developmental use by the County of Chester, PA to provide index to parcels and for other reference purposes. Parcel lines do not represent actual field surveys of premises. County of Chester, PA makes no claims as to the completeness, accuracy or content of any data contained herein, and makes no representation of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied or inferred, with respect to the information or data furnished herein.



Inset Overlays





Appendix E

Wetland Report



Downingtown Train Station Relocation *Waterway and Wetland Delineation Report*

Agreement E02871 - Environmental
Work Order #2 - Downingtown Station NEPA
Task #1.9 - Wetland Investigation for Expanded Project Area
Deliverable #1.9 - Wetland Identification and Delineation Report

Revised October 22, 2015



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- Table 3:** Definitions of Vegetation Strata
- Table 4:** Hydrophytic Vegetation Community Indicator Tests
- Table 5:** Common Hydric Soil Field Indicators within the Eastern Mountains and Piedmont Region
- Table 6:** Wetland Field View Information
- Table 7:** Description of Soil Series
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- Table 9:** Wetlands Delineated in Project Study Area
- Table 10:** Waterways Identified in Project Study Area

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- Appendix B:** Routine Onsite Determination Data Forms
- Appendix C:** Photograph Log and Photograph Location Map
- Appendix D:** Wetland Function-Value Evaluation Forms
- Appendix E:** Qualifications of Preparers

***Waterway and Wetland Delineation Report
Downingtown Train Station Relocation Project
Downingtown Borough, Chester County, Pennsylvania***

Executive Summary

The Keystone Corridor is owned by the National Railroad Passenger Corporation (Amtrak) and is used by inter-city and regional passenger railroads as well as freight carriers, serving as an important link between Harrisburg and Philadelphia. A long term improvement project administered by the Pennsylvania Department of Transportation's (PennDOT) Bureau of Public Transportation (BPT) is currently underway to upgrade the existing corridor to meet current design standards as well as the operational needs of the future.

As part of the effort to improve the Keystone Corridor, PennDOT, with cooperation from Amtrak and the Southeastern Pennsylvania Transportation Authority (SEPTA), has begun studies to obtain necessary permits for the relocation of the Downingtown Train Station. The Downingtown Train Station is located on Amtrak's Keystone Line (Keystone Line) between the Coatesville and Exton stations. This is approximately 32 miles west of Philadelphia, in the Borough of Downingtown, Chester County, Pennsylvania (Figure 1).

The existing Downingtown Train Station does not meet the requirements set forth by the Americans with Disabilities Act (ADA) and has parking which is nearing capacity. The proposed Station will be ADA compliant and will include adequate parking for current and anticipated future needs.

In support of the project, Michael Baker International performed a wetland and waterway identification and delineation on August 14, 2015. The project site was investigated for federal and/or state regulated wetlands and waterways. Wetland boundaries were determined using the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region.

Field investigation delineated two wetlands and two streams (East Branch Brandywine Creek and Tributary 1) within the study limits. Both delineated wetlands are hydrologically isolated and less than 0.05 acre in size. The East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch) is designated as a warm water fishery with migratory fishes (WWF, MF). East Branch Brandywine Creek is not currently stocked with trout and is not known to support natural trout reproduction within the project area. Additionally, none of the identified resources are designated as exceptional value.

To facilitate pedestrian access to the proposed relocated train station, the project includes the construction of a pedestrian bridge over the East Branch Brandywine Creek to connect the Johnstown Park and Brandywine Trail with the train station. As such, it is anticipated that the project will require authorization through a Chapter 105 permit from the Pennsylvania Department of Environmental Protection (PADEP) and a Section 404 permit from the US Army Corps of Engineers. Although the project will likely impact the delineated wetlands, since both wetlands are isolated and below the PADEP de minimus area of 0.05 acres, mitigation is not anticipated. As required, as part of the design process, opportunities to avoid or minimize impacts to regulated resources will be considered.

***Waterway and Wetland Delineation Report
Downingtown Train Station Relocation Project
Downingtown Borough, Chester County, Pennsylvania***

1.0 Introduction

Michael Baker International (Michael Baker) performed waterway/wetland investigations in August 2015 for the study area of the Downingtown Train Station Relocation Project. This report presents technical information required for the identification and delineation of jurisdictional wetland boundaries.

The study area is located in Downingtown Borough, Chester County, Pennsylvania and includes portions of East Branch Brandywine Creek and an unnamed tributary (Tributary 1). Refer to Table 1 for further site data and project information and refer to Figure 1 for a topographic site location map.

Table 1 Project and Site Information	
Applicant:	Jennifer Granger, AICP PennDOT, Bureau of Public Transportation 400 North Street, 6 th Floor Harrisburg, PA 17105-3457 (717) 705 – 1212
Project Name and Location:	Downingtown Train Station Relocation Project <i>Downingtown Borough Chester County, Pennsylvania</i>
USGS/NWI Quadrangle:	Downingtown, PA
Soil Mapping:	Natural Resources Conservation Service. Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov . Chester County, Pennsylvania.
Drainage Basin:	<u>Minor/Major Watershed:</u> East Branch Brandywine Creek <u>Drainage System:</u> Delaware River Basin
Department of Environmental Protection (DEP) Chapter 93 Water Quality Classification:	East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch) watershed – Warm Water Fishery (WWF), Migratory Fishery (MF)
Pennsylvania Fish and Boat Commission Designated Wild Trout or Stocked Trout Stream?	No
Exceptional Value Watershed?	No

***Waterway and Wetland Delineation Report
Downingtown Train Station Relocation Project
Downingtown Borough, Chester County, Pennsylvania***

The wetland study area specifically includes the area west of Reed Street but east of East Branch Brandywine Creek and north of Boot Road but south of the Keystone Line. The study area also includes a small portion of land located north of the Keystone Line between Chester Alley and Brandywine Avenue, and a small portion located across East Branch Brandywine Creek, adjacent to the existing Brandywine Trail south of the Keystone Line (Appendix A).

1.1 Current Land Use and Setting

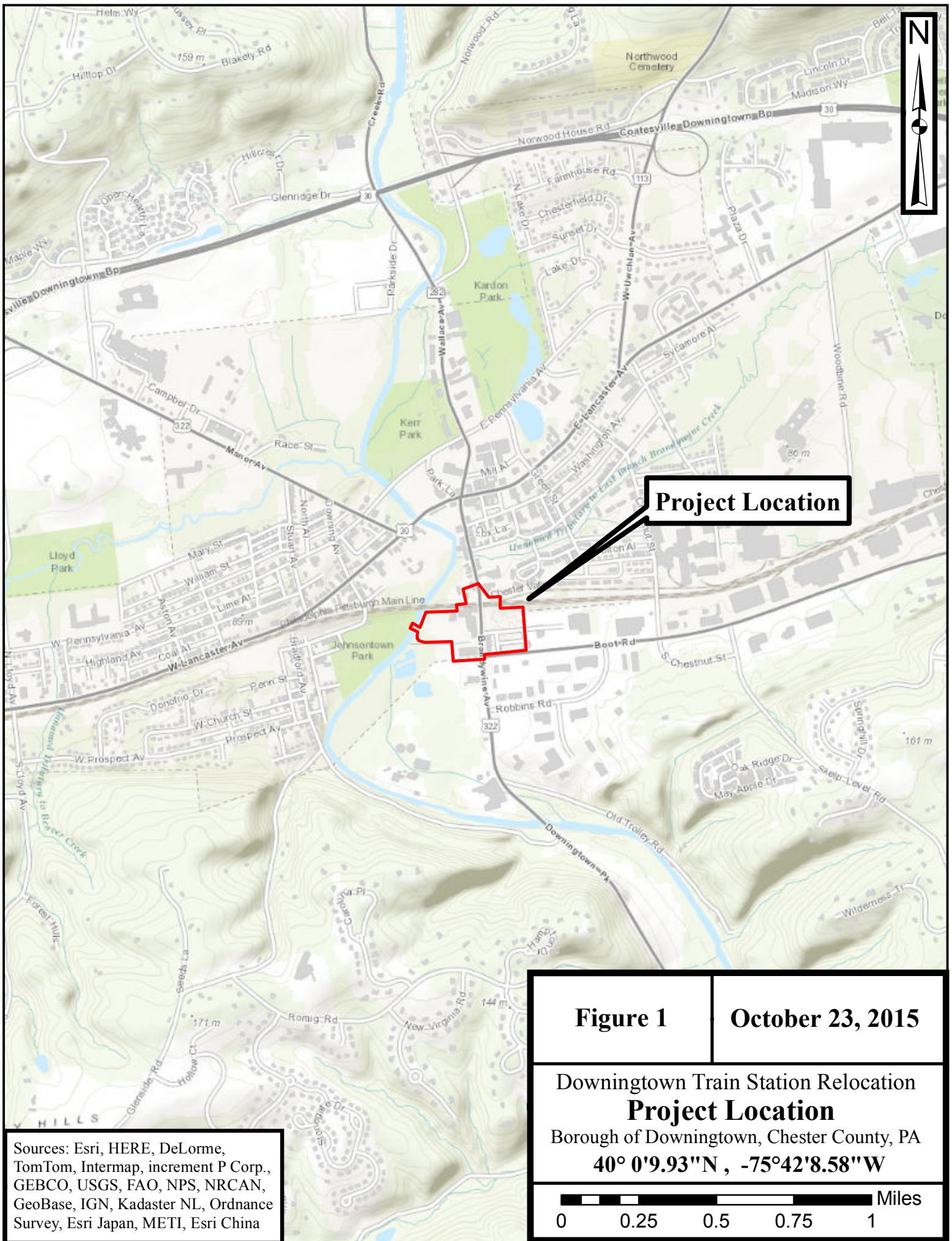
The Downingtown Train Station Relocation project general site area includes a mix of vacant, residential, commercial, industrial, and recreational parcels. Currently occupied residential parcels are located within the northern section of the study area. The southwestern quadrant of the study area is the site of the former Sonoco paper mill and includes concrete and brick structures in a state of disrepair. A portion of forested land is also located in the southwestern quadrant, adjacent to an unnamed tributary to East Branch Brandywine Creek, which crosses through the southern portion of the study area. The study area crosses East Branch Brandywine Creek south of the Keystone Line at the site of the proposed pedestrian bridge, which connects to Johnsontown Park and Brandywine Trail. The project study area encompasses an area totaling approximately 19.25 acres (area of field investigation). The topography in the study area and in the general vicinity is flat to rolling terrain, as shown in Figure 1, the United States Geologic Survey (USGS) 7.5' Topographic Map containing the project study area.

1.2 Project Description

The Keystone Corridor is owned by Amtrak and serves as an important link between Harrisburg and Philadelphia. A long term improvement project administered by PennDOT BPT is currently underway to upgrade the existing corridor to meet current design standards as well as the operational needs of the future.

As part of the effort to improve the Keystone Corridor, PennDOT, with cooperation from Amtrak and SEPTA, has begun studies to obtain necessary permits for the relocation of the Downingtown Train Station. The existing Downingtown Train Station consists of a single low level platform for the eastbound track and a single low level platform for the westbound track. These platforms do not meet the requirements set forth by the ADA. To comply with the ADA, it is necessary to install high level platforms, and Amtrak prefers that high level platforms be on tangent track. This cannot be done at the current location due to its position in a horizontal curve; therefore a new station is proposed on a section of tangent track located approximately half a mile east of the existing location (see Figure 1 for project location). In addition to the ADA compliance issue, parking at the existing Downingtown Train Station is nearly at capacity, with 226 existing parking spaces.

The relocated Downingtown Train Station, to be used by Amtrak and SEPTA, will be ADA compliant, with high level platforms, and will include approximately 970 parking spaces, intermodal interface, traffic improvements, and a pedestrian bridge across East Branch Brandywine Creek. The pedestrian bridge will connect the Station to Johnsontown Park and Brandywine Trail.



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

Figure 1

October 23, 2015

Downingtown Train Station Relocation
Project Location
Borough of Downingtown, Chester County, PA
40° 0'9.93"N , -75°42'8.58"W

0 0.25 0.5 0.75 1 Miles

The project includes establishing erosion and sediment controls, removal of the existing structures, construction of the new structures, reconstruction of the rail line bridge, paving of the parking lots and roadway extensions, and minor approach work and widening of the existing roadway. The area disturbed for this project will exceed one acre. As such, a PADEP National Pollutant Discharge Elimination System (NPDES) permit will be required per Chapter 102 code. Approval of an Erosion and Sedimentation Control Plan (ESCP) will also be requested from the Chester County Conservation District and established erosion and sediment controls will be used throughout the site during construction. Stormwater Best Management Practices (BMPs), such as rain gardens, will be installed as part of the project.

2.0 Wetland Delineation Methodology

2.1 Preliminary Identification of Wetlands

The preliminary steps utilized for wetland identification were those outlined in Part IV: Methods (Section b) of the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987). Prior to field reconnaissance, the project was located on 7.5 minute USGS Quadrangle mapping (Downingtown, PA) (Figure 1). This mapping was evaluated for topographic relief, drainage patterns, and subwatershed characteristics, which would suggest potential wetlands. The United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (Figure 2) was examined for previously mapped wetlands within the study area. The Chester County Soil Survey was reviewed and the relevant portion of mapping is provided as Figure 3.

In order to identify an area as a regulated wetland, positive indicators for hydrophytic vegetation, hydric soils and wetland hydrology must be identified (unless a problem area is encountered). The following section describes the criteria set forth in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987) and/or the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (USACE, 2012) to determine the presence or absence of hydrophytic vegetation, hydric soils, and wetland hydrology. These three criteria were closely examined in the determination of regulatory wetland boundaries for the identified wetland. This was accomplished by examining characteristics up and down the slopes of the wetland periphery and placing markers at points along the boundaries.

2.2 Wetland Delineation Criteria

The USACE (Federal Register 1982) and the USEPA (Federal Register 1980) jointly define wetlands as:

“Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions.”

Additionally, the definition of a wetland given in the Pennsylvania Code Chapter 105 – Dam Safety and Waterway Management is nearly identical to the above in defining a wetland as:

“Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas.”

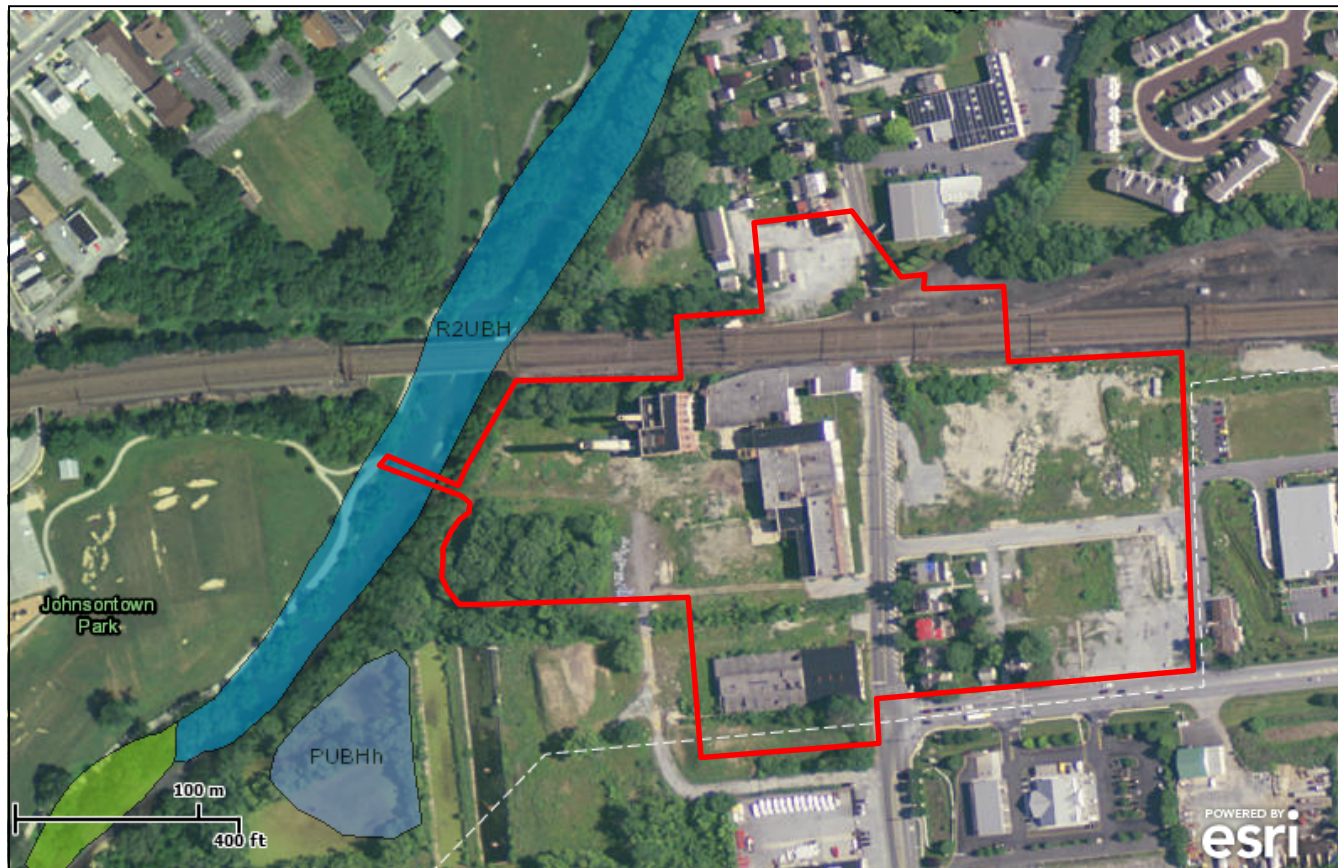


U.S. Fish and Wildlife Service

National Wetlands Inventory

Downingtown Train Station

Oct 16, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Figure 2: USFWS National Wetlands Inventory Map

Soil Map—Chester County, Pennsylvania
(Downingtown Train Station)



Natural Resources
Conservation Service

Figure 3: USDA NRCS Soil Survey Map

Web Soil Survey
National Cooperative Soil Survey 8/6/2015

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The PADEP regulates the filling of open waters and disturbance of wetlands as specified under Chapter 105 regulations. In accordance with USACE Wetlands Delineation Manual and the Regional Supplement, the following parameters are characteristic of wetlands:

1. The land is dominated by hydrophytes;
2. The substrate is undrained hydric soil; and
3. The substrate is saturated with groundwater or flooded for a significant part of the growing season each year.

Positive indicators of the aforementioned listed parameters are the basis for wetland identification. All three parameters must be present in order for an area to be identified as wetland, unless abnormal or atypical conditions (problem areas) are determined to be present. The USACE Wetlands Delineation Manual and the Regional Supplement procedures were used for the determination of wetland boundaries. These manuals are further supplemented by the National Technical Committee for Hydric Soils (NTCHS) *Field Indicators of Hydric Soils in the United States* (USDA, 2010) for identification of hydric soils and the *National Wetland Plant List* for identification of hydrophytic vegetation. Definitions and diagnostic environmental characteristics of each parameter as well as technical guidelines are presented in the following sections.

2.2.1 Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the community of macrophytes that occurs in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence.” (USACE, 2012). Hydrophytic species generally have the adaptations and ability to grow, effectively compete, and/or persist in anaerobic conditions. The USFWS (Reed, 1988) developed a vegetation classification scheme and the USACE updated the National Wetland Plant List (NWPL) in 2012 and in 2014 (Lichvar, 2012). The NWPL established wetland indicator classes for vegetation based on the species affinity for wetland conditions and its percentage of occurrence in wetlands (Table 2).

Table 2 Plant Affinity for Wetland Conditions	
<u>Wetland Indicator Classification</u>	<u>Percent Occurrence in Wetlands</u>
Obligate (OBL)	Almost always is a hydrophyte, rarely in uplands
Facultative Wet (FACW)	Usually a hydrophyte but occasionally found in uplands
Facultative (FAC)	Commonly occurs as either a hydrophyte or non-hydrophyte
Facultative Upland (FACU)	Occasionally is a hydrophyte but usually occurs in uplands
Upland (UPL)	Rarely is a hydrophyte, almost always in uplands

The first step in field wetland delineations is to identify major plant community units within the project area. Each plant community unit is evaluated separately. Evaluations in each community include an estimation of percent cover of specific plant species either with the vegetation unit as a whole or within a representative sampling plot. Vegetation strata within a sampling area are evaluated separately.

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Within the Regional Supplement for the Eastern Mountains and Piedmont Region, four vegetation strata are recommended and are defined in Table 3.

Table 3 Definitions of Vegetation Strata	
Vegetation Strata	Description
Tree	Consists of woody plants, excluding vines, 3 inches (7.6 centimeters) or more in diameter at breast height (DBH), regardless of height.
Sapling/Shrub	Consists of woody plants, excluding vines, less than 3 inches DBH and greater than 3.28 feet (one meter) tall.
Herb	Consists of all herbaceous (non-woody) plants, regardless of size, and all other plants less than 3.28 feet tall.
Woody Vines	Consists of all woody vines greater than 3.28 feet in height.

The USACE Regional Supplements allow for several acceptable vegetative sampling techniques, based on professional judgment and site constraints.

To determine if a hydrophytic vegetation community is present within the sampling plot, a stepwise procedure is outlined in the USACE Regional Supplement Manuals, which is summarized in Table 4.

Table 4 Hydrophytic Vegetation Community Indicator Tests	
Indicator Test	Description if Hydrophytic
Rapid Test for Hydrophytic Vegetation	All dominant species (50/20 rule) across all strata are rated OBL or FACW, or a combination of these two categories, based on a visual assessment.
Dominance Test	More than 50 percent of the dominant plant species across all strata are rated OBL, FACW, or FAC.
Prevalance Index	The prevalence index is 3.0 or less. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot.
Morphological Adaptations	The plant community passes either the dominance test or the prevalence index after reconsideration of the indicator status of certain plant species that exhibit morphological adaptations for life in wetlands.

2.2.2 Hydric Soil

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (NTCHS, USDA Soil Conservation Service). Wetland soils are either hydric or possess characteristics which are associated with anaerobic conditions.

When gathering background information on the site soils the county soil survey along with the national and local hydric soil lists should be consulted. The county soil surveys provide useful information pertaining to site soil properties and soil moisture conditions. Hydric soil lists can indicate if a large area of hydric soils are known to exist in an area. Both of these sources are to be used as supplemental information to the field soil investigation.

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When describing soils, first general observations should be made of the overall site and how it interacts with the soil. Landform, slope, slope shape, hydrology, soil materials and vegetation can all indicate why a hydric soil is or is not present.

The USACE Regional Supplements require the use of the current version of the NTCHS *Field Indicators of Hydric Soils in the United States*. Hydric soil field indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment.

A highly reduced soil is usually created during periods of prolonged water saturation with the color of the soil affected by reduced oxygen concentrations. Under reduced conditions, metal compounds, particularly iron, change color from bright orange and brown to various shades of gray. Soils that are gleyed (blue-green) with a dark gray or black matrix usually are indicative of long periods of water saturation. Soils that are exposed to moderate periods of water saturation are predominantly gray with mottles of bright orange or brown. The intensity or saturation of a color is defined as chroma. Typically, soils that are saturated for moderate periods of time will develop a low-chroma (dull) or gleyed matrix due to the reduction of iron and manganese in the soil. Soil color is determined in the field by comparing soil colors of recovered samples to the *Munsell Soil Color Charts* (Munsell Color, 2010).

During extended, prolonged water saturation and usually following the iron or manganese reduction described above, sulfate is converted to hydrogen sulfide gas. Hydrogen sulfide gas emits a rotten egg odor within the soils and is evident during field soil investigations. The presence of hydrogen sulfide gas is a strong hydric soil field indicator; however the absence of the gas does not indicate the reverse as this indicator is only found at the wettest sites in sulfur containing soils.

In anaerobic conditions (saturated soils), microbial activity is considerably slower than under aerobic conditions. As a result, organic matter (carbon compounds) tends to accumulate in saturated soils due to the rate of deposition being greater than the rate at which microbes can break it down for energy utilization. The presence of thick organic surfaces or organic rich mineral layers is usually another good field indicator of a hydric soil.

Hydric soil field indicators as described in the NTCHS field manual include a measurement of the above listed indicators. Its location and width within the soil profile is important in determining the presence of a hydric soil. Common hydric soil field indicators within the Eastern Mountains and Piedmont region are described in Table 5.

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Table 5 Common Hydric Soil Field Indicators within the Eastern Mountains and Piedmont Region. <i>USACE Regional Supplement: Eastern Mountains and Piedmont Region and the NTCHS Field Indicators of Hydric Soils</i>	
Field Indicator	Technical Description
S5 – Sandy Redox	A layer starting within 6 in. (15 cm) of the soil surface that is at least 4 in. (10 cm) thick and has a matrix with 60 percent or more chroma of 2 or less with 2 percent or more distinct or prominent redox concentrations occurring as soft masses and/or pore linings
F3 – Depleted Matrix	A layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of either: <ul style="list-style-type: none"> • 2 in. (5 cm) if the 2 in. (5 cm) is entirely within the upper 6 in. (15 cm) of the soil, or • 6 in. (15 cm) starting within 10 in. (25 cm) of the soil surface.
F6 – Redox Dark Surface	A layer that is at least 4 in. (10 cm) thick, is entirely within the upper 12 in. (30 cm) of the mineral soil, and has a: <ul style="list-style-type: none"> • Matrix value of 3 or less and chroma of 1 or less and 2 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings, or • Matrix value of 3 or less and chroma of 2 or less and 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings.
F7 – Depleted Dark Surface	Redox depletions with a value of 5 or more and chroma of 2 or less in a layer that is at least 4 in. (10 cm) thick, is entirely within the upper 12 in. (30 cm) of the mineral soil, and has a: <ul style="list-style-type: none"> • Matrix value of 3 or less and chroma of 1 or less and 10 percent or more redox depletions, or • Matrix value of 3 or less and chroma of 2 or less and 20 percent or more redox depletions.

2.2.3 Wetland Hydrology

Wetland hydrology, in combination with indicators of a hydric soil and hydrophytic vegetation, confirm that the site has a continuing wetland hydrologic regime. Wetland hydrology includes all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. The range of wetland hydrologic conditions varies from saturation of the soil for only one week during the growing season to continual inundation. Wetland hydrology is the catalyst for development of hydric soils and creates the conditions necessary to support hydrophytic vegetation. Indicators of wetland hydrology are subject to disturbance, seasonal conditions, or drought conditions. The lack of an indicator is not evidence for the absence of wetland hydrology, especially if the wetland delineation is conducted during the dry season or during drier than normal years. Conversely, the presence of a wetland hydrology indicator does not automatically indicate wetland hydrology is present, without considering recent weather and climatic conditions (i.e. drift lines within a floodplain of a stream).

When evaluating wetland hydrology, the site growing season should be considered. Growing season should primarily be determined by field observations of vegetation growth and development and/or soil temperature; however, long term records of air temperatures can also be considered (WETS tables, NRCS National Water and Climate Center). Field Indicators of the growing season are determined to

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have begun when two or more non-evergreen vascular plant species growing within the study area exhibit one or more of the following biological indicators:

1. Emergence of herbaceous plants from the ground
2. Appearance of new growth from vegetative crowns (e.g., in graminoids, bulbs, and corms)
3. Coleoptile/cotyledon emergence from seed
4. Bud burst on woody plants (i.e., some green foliage is visible between spreading bud scales)
5. Emergence or elongation of leaves of woody plants
6. Emergence or opening of flowers

Growing season conditions can also be met if soil temperatures measured at 12 in. (30 cm) depth is 41°F (5 °C) or higher.

With the implementation of the Regional Supplements, several wetland hydrology indicators are used within each region. The indicators can be divided into four basic groups:

- Observation of Surface Water or Saturated Soils (Group A)
- Evidence of Recent Inundation (Group B)
- Evidence of Current or Recent Soil Saturation (Group C)
- Evidence from Other Site Conditions or Data (Group D)

Within each group, the indicators are further divided into primary and secondary indicators, based on their regional reliability. Primary indicators can be used alone to indicate wetland hydrology, while secondary indicators are used in conjunction with primary or other secondary indicators. As with the hydric soil indicators, descriptions, photos, and cautions/user notes of each hydrology indicator approved for use within the Eastern Mountains and Piedmont region are listed in the Regional Supplement (USACE, 2012).

3.0 Wetland Field Investigation Results

Following the preliminary analysis of potential wetland areas using aerial photography, topographic mapping, soil survey mapping and NWI maps, a wetland delineation field view was conducted in August 2015. Important features from the investigation are included on the wetland and waterway delineation map in Appendix A. Table 6 provides details concerning the wetland scientists/ecologists conducting the field view. The wetland identification and delineation was performed utilizing the USACE Wetland Delineation Manual with the Regional Supplement for the Eastern Mountains and Piedmont Region (See Appendix B for Data Forms). Photographs taken during the site visit are contained in Appendix C.

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Table 6
Wetland Field View Information

This wetland delineation was conducted on:	August 14, 2015
Wetland Delineator Names and Contact Information:	Rebecca Traylor, PWS, CE and Mo McCurdy Michael Baker International 4431 North Front Street, 2 nd Floor Harrisburg, PA 17110 (609) 807-9597; (717) 221-2002 rtraylor@mbakerintl.com; morgan.mccurdy@mbakerintl.com
Lead Delineator Qualifications: (resumes are provided in Appendix E)	B.S. in Ecology and Natural Resources Management, Rutgers University M.E.S. in Environmental Studies, University of Pennsylvania Wetland Delineator Program, Rutgers University Multiple wetland trainings throughout the mid Atlantic states Society of Wetland Scientist Certified Professional Wetland Scientist Ecological Society of America Certified Ecologist 11 years professional consulting experience in wetland delineation.

3.1 Preliminary Assessment

Topographic mapping reveals the project area to be relatively flat with a slight downslope leading to the East Branch Brandywine Creek. An unnamed tributary originates within the project area and discharges into East Branch Brandywine Creek just outside of the project area's western boundary. No wetlands are depicted in the project vicinity on the available NWI mapping. (Figure 2).

WETS tables from the Coatesville 2 W, PA1591 station did not provide information for the growing season. Therefore, data from Phoenixville, Chester County was used. WETS tables from the Phoenixville 1 E, PA6927 station indicate that there is a 70 percent chance of the growing season to be approximately 184 days within the region (temperatures above 32 degrees). The growing season typically occurs from April 19th to October 20th. The Soil Survey of Chester County, Pennsylvania was examined to identify listed hydric soils and documented general soil moisture conditions within the study area. According to the soil survey, most of the wetland study area is mapped as Urban soils and Thorndale silt loam. Refer to Figure 3 for soil mapping and Table 7 for a brief description of the soil series.

Table 7
Description of Soil Series

Soil Series	Description
Urban (UrB)	Alluvial materials, profile of the soil has been destroyed or covered with various materials by earthmoving equipment so much so that soils cannot be classified.
Thorndale (Th)	Silt loam consisting of very deep, poorly drained soils formed in medium textured colluvium derived from limestone, calcareous shale, and siltstone.
Clarksburg (ClB)	Silt loam consisting of deep, moderately well drained soils.
Penlaw (PdA)	Silt loam consisting of deep and very deep, somewhat poorly drained soils formed in colluvium derived primarily from limestone but with some shale and sandstone.
Lindside (Ln)	Silt loam found on flood plains that are deep and moderately well drained soils. They formed in sediments washed from areas underlain by limestone.

Both Clarksburg silt loam and Thorndale silt loam soils are located within the project area and are listed on the Chester County Hydric Soils List for Chester County, PA, due to their occurrence in depressions, drainageways, and valleys, which are often hydric landforms. Lindside silt loam soils are also listed on the Chester County Hydric Soils List due to their occurrence in floodplains.

3.2 Field Assessment

In order to determine if wetlands are located within the study area, a series of observations were made to confirm the presence or absence of positive wetland indicators. First, all plant community units were identified and delineated on a map to determine the location of sampling points and potential wetland areas.

At each recorded sampling point, observations of general landform and site characteristics were made and recorded. Next, all vegetation (>5 percent absolute cover) was identified, divided into strata, classified, and absolute percent cover was estimated to make a determination of the presence of hydrophytic vegetation. Dominant vegetation was determined utilizing the 50/20 rule in each stratum. Absolute percent cover was estimated using sampling plots consisting of a 30-foot radius for all trees and woody vines, a 15-foot radius for saplings and shrubs and a 5-foot radius for herbaceous vegetation. A soil auger was then used to take soil samples within each plant community unit and at areas along the wetland edge that supported a hydrophytic plant community. Subtle changes in topography and hydrology were also used to locate these sampling areas. The soil was then examined to a depth of at least 18 inches (when possible) for wetland characteristics. Soil sample colors were then compared to the Munsell Soil Color Charts for categorization. Soil descriptions were recorded on the data forms.

Hydrologic indicators were also examined within the study area for clear evidence of wetland hydrology. Depending on the results of the soil sample, further samples were taken either closer to the wetland or upland until the boundary was determined. In an atypical situation, a reliable soil sample may not be obtainable. In this instance, a determination must be based upon other indicators including vegetation, hydrology and site topography. Soil sampling, combined with changes in vegetation and topography, was used to determine the final wetland boundary. Wetland determination data forms were completed to document the wetland criteria and are included in Appendix B.

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The field assessment for wetlands was conducted on August 14, 2015 to confirm and delineate regulated wetlands present within the project site. Weather during the field visit was clear and sunny. The last rain event in Downingtown was two days prior on August 12; however, precipitation was less than one inch of rainfall. The wetland site investigation occurred within Chester County's typical growing season dates.

The wetland delineation assessment identified one palustrine emergent (PEM) wetland area (Wetland A) and one palustrine forested (PFO) wetland area (Wetland B). Wetlands A and B are located in the southwestern corner of the project area and are not hydrologically connected. Additionally, the East Branch Brandywine Creek and one unnamed tributary (Tributary 1) are regulated waterways within the project limits. The wetland boundaries identified during this assessment, as well as, the location of recorded sampling points are included on the Wetland Delineation Map (Appendix A). For each identified and delineated wetland or stream, a brief description of the wetland or stream and its location within the project area is provided in sections 3.2.1 – 3.2.5. A sample of vegetation observed throughout the study area is listed in Table 8.

Table 8 Vegetation Identified in Project Study Area		
Scientific Name	Common Name	Wetland Indicator Status
<i>Acer negundo</i>	Boxelder maple	FAC
<i>Acer platanoides</i>	Norway maple	FACU
<i>Acer saccharinum</i>	Silver maple	FACW
<i>Ailanthus altissima</i>	Tree-of-heaven	FACU
<i>Euthamia graminifolia</i>	Lance-leaved goldenrod	FAC
<i>Fraxinus pennsylvanica</i>	Green ash	FACW
<i>Impatiens capensis</i>	Jewelweed or spotted touch-me-not	FACW
<i>Juglans nigra</i>	Black walnut	FACU
<i>Juncus effusus</i>	Lamp rush	FACW
<i>Laportea canadensis</i>	Canadian wood-nettle	FAC
<i>Lonicera japonica</i>	Japanese honeysuckle	FAC
<i>Lonicera morrowii</i>	Morrow's honeysuckle	FACU
<i>Lythrum salicaria</i>	Purple loosestrife	FACW
<i>Microstegium vimineum</i>	Japanese stilt grass	FAC
<i>Persicaria sagittata</i>	Arrow-leaf tearthumb	OBL
<i>Rhus typhina</i>	Staghorn sumac	NL
<i>Robinia pseudoacacia</i>	Black locust	FACU
<i>Rosa multiflora</i>	Multiflora rose	FACU
<i>Rubus pergratus</i>	Upland blackberry	FACU
<i>Salix nigra</i>	Black willow	OBL
<i>Sambucus nigra</i>	Black elder	FAC
<i>Solidago altissima</i>	Tall or Canada goldenrod	FACU
<i>Toxicodendron radicans</i>	Poison Ivy	FAC
<i>Trifolium repens</i>	White clover	FACU

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3.2.1 East Branch Brandywine Creek

East Branch Brandywine Creek flows northeast to southwest within the project area and overall flows southeast until it converges with West Branch Brandywine Creek to form Brandywine Creek. East Branch Brandywine Creek originates approximately 16 stream miles northwest of the project site to the northeast of Honey Brook, PA as an outfall from the dam at Robert G. Struble Lake. The drainage area size of East Branch Brandywine Creek at the proposed Downingtown Train Station project area is approximately 0.04 square miles. The watershed is mainly rolling terrain, flat in the immediate floodplain. Approximately 6 percent of the drainage area is forested.

East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch) is designated as a warm water fishery with migratory fishes (WWF, MF) in the *Pennsylvania Code Title 25 Chapter 93 Water Quality Standards*. East Branch Brandywine Creek is perennial and is not designated by the Pennsylvania Fish and Boat Commission as approved trout waters (stocked with trout) within the project area although a section of the Creek which ends just north of the project area is approved trout waters. According to the Pennsylvania Fish and Boat Commission (PFBC), a 4.26 mile section of East Branch Brandywine Creek ending at Culbertson Run supports naturally reproducing trout. However, these Wild Trout Limits are located north of the project area and the Creek is not known to support naturally reproducing trout within the project area limits. East Branch Brandywine Creek is generally about 100 feet wide within the project area. During the field view of the site, the creek was clear. Vegetation observed on the banks included green ash (*Fraxinus pennsylvanica*, FACW), boxelder maple (*Acer negundo*, FAC), Japanese honeysuckle (*Lonicera japonica*, FAC), and poison ivy (*Toxicodendron radicans*, FAC). The stream is mostly located outside of the proposed project area's western border. The project area crosses over the stream at the location of the proposed pedestrian bridge. The stream bottom consists mainly of silt and small cobble. East Branch Brandywine Creek is not a designated water trail by the PFBC and is not considered navigable waters under Section 10 of the Rivers and Harbors Act. However, it is known that the Creek is used by recreational boats according to the Keystone Canoeing Guide (Gertler, 2004) and would be considered navigable-in-fact under Section 404 of the Clean Water Act.

3.2.2 Unnamed tributary to East Branch Brandywine Creek

An unnamed tributary to East Branch Brandywine Creek flows east to west within the project area and confluent with East Branch Brandywine Creek southwest of the project area. This tributary is not mapped on NWI or soil maps, but can be seen on topographic mapping. Site investigation confirmed the presence of this stream but with very low flow. The tributary flows through a vacant, developed area, and crosses beneath a culvert within the project area. The majority of the tributary is located outside of the project area, as it closely follows the project area's southern border until it reaches East Branch Brandywine Creek. Unnamed tributary to East Branch Brandywine Creek is a tributary to East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch), which is designated as a warm water fishery with migratory fishes (WWF, MF) in the *Pennsylvania Code Title 25 Chapter 93 Water Quality Standards*. Tributary 1 is perennial, is not designated as approved trout waters and is not known to support naturally reproducing trout by PFBC. Tributary 1 is generally about 2 feet in bottom width and 3 feet wide from top of bank (TOB) to TOB within the project area. During the field view of the site, the stream was clear. Vegetation observed on the banks of Tributary 1 included tree of heaven (*Ailanthus altissima*, FACU), green ash (*Fraxinus pennsylvanica*, FACW), boxelder maple (*Acer negundo*), staghorn sumac (*Rhus typhina*, FAC), Marrow's honeysuckle (*Lonicera morrowii*, FACU), Japanese

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honeysuckle (*Lonicera japonica*, FAC), poison ivy (*Toxicodendron radicans*, FAC), and Virginia creeper (*Parthenocissus quinquefolia*, FACU).

3.2.3 Area A– Palustrine Emergent (PEM) Wetland, southwest project area

The wetland was not mapped on NWI mapping and was not included on USGS topographic mapping; however, aerial mapping indicated the potential for an area of wetlands to the north of Tributary 1. The Chester County soil survey mapping revealed that the wetland is underlain by Thorndale soils, which are hydric. Wetland A is not hydrologically connected to East Branch Brandywine Creek or Tributary 1. Wetland A is located adjacent to the northern edge of the forested area on the western side of the project area. The wetland is located at the toe of a slope. Its hydric source is most likely precipitation since it is not hydrologically connected to either stream or Wetland B, making it an isolated wetland. Isolated wetlands are not subject to federal jurisdiction.

The sample point (SP-1) was located within this wetland. The PEM wetland is dominated by jewelweed (*Impatiens capensis*, FACW). It was evident during the field view that this portion of the study area has been disturbed. Evidence of a previous roadway can be observed on the north side of the wetland. There were no primary hydrologic indicators at the sampling point. Secondary hydrologic indicators included the presence of drainage patterns (B10), geomorphic position of the wetland (D2), and a positive FAC-Neutral Test (D5). Wetland A did not exhibit inundation and no springs or seeps were observed. Soil samples extracted in the field from the wetland exhibited a depleted matrix below dark surface (A11), which indicates the presence of a hydric soil. The soil in this wetland was a fine loam.

3.2.4 Area B– Palustrine Forested (PFO) Wetland, southwest project area

The wetland was not mapped on NWI mapping and was not included on USGS topographic mapping. The Chester County soil survey mapping revealed that the wetland is underlain by Thorndale soils, which are hydric. Wetland B is located about 60 feet north of Tributary 1 and 80 feet southwest of Wetland A; however, it is not hydrologically connected to either. Wetland B would therefore be considered an isolated wetland and as a result, non-jurisdictional. It is a depressional wetland with precipitation as its most likely hydric source.

The sample point (SP-3) was located within this wetland. The PFO wetland is sparsely vegetated but is dominated by boxelder maple (*Acer negundo*, FAC) and Canadian wood-nettle (*Laportea Canadensis*, FAC). Similar to Wetland A, it was evident that the area of Wetland B has been previously disturbed due to fill observed in the soil samples. A sparsely vegetated path lies adjacent to the south between the wetland and Tributary 1. There were no primary hydrologic indicators at the sampling point. Secondary hydrologic indicators at the sampling point included the presence of a sparsely vegetated concave surface (B8), the presence of drainage patterns (B10), and the geomorphic position of the wetland (D2). Wetland B did not exhibit inundation and no springs or seeps were observed. Soil samples extracted in the field from the wetland exhibited a loamy gleyed matrix (F2), which indicates the presence of a hydric soil. Fill was observed as part of the soil within this wetland and white streaks can be seen within the deeper soil layers.

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Table 9 and 10 list the wetlands and waterways delineated within the study area.

Table 9 Wetlands Delineated in Project Study Area			
Wetland ID	Type/Classification	Size (within study area)	Latitude/Longitude
Area A	Palustrine Emergent	0.015 acres	40.001982N; -75.704485W
Area B	Palustrine Forested	0.025 acres	40.001654N; -75.704703W

Table 10 Waterways Identified in Project Study Area						
Stream ID	Project Area Location	Stream Classification	Average Width / Average Depth*	Chapter 93 Classification	Watershed	Adjacent Wetlands in project area?
East Branch Brandywine Creek	Western Boundary	Perennial	100 ft./ 2 ft.	WWF, MF	East Branch Brandywine Creek	No
UNT to East Branch Brandywine Creek, Tributary 1	Southwest Boundary	Perennial	3 ft./6 in.	None	East Branch Brandywine Creek	No

* Depth = Average depth of water observed during site visit.

4.0 Wetland Functional Assessment

Wetland functions and values are used by the regulatory agencies to describe site characteristics, compare project alternatives, determine significance of impacts, analyze avoidance and minimization of impacts, weigh environmental impacts versus project benefits, and design/monitor compensatory mitigation. The New England USACE Descriptive Method as described in *The Highway Methodology Workbook Supplement, "Wetland Functions and Values: A Descriptive Approach"* (1999) was used to determine the functions and values of each identified wetland within the project area. This method includes a qualitative description of the physical characteristics of the wetlands. Physical characteristics assessed include:

- Groundwater Recharge/Discharge
- Floodflow Alteration
- Fish and Shellfish Habitat
- Sediment/Toxicant Retention
- Nutrient Removal
- Production Export
- Sediment/Shoreline Stabilization
- Wildlife Habitat
- Recreation
- Educational/Scientific Value
- Uniqueness/Heritage
- Visual Quality/Aesthetics
- Threatened/Endangered Species Habitat

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Each wetland characteristic was evaluated by the presence of qualifiers listed in Appendix A of the NE USACE Descriptive Method manual (a copy of which is provided in Appendix D of this report).

Wetlands within the project area include Wetland Area A and Wetland Area B. Suitable functions and values of the PEM Wetland A include groundwater recharge, sediment/toxicant retention, and nutrient removal. The wetland consists primarily of jewelweed (*Impatiens capensis*) vegetation and is located outside the floodplain of East Branch Brandywine Creek, within a previously developed area. Development is continuing to occur on the property and elsewhere within the watershed, thus the wetland acts as an important filter before sediment reaches East Branch Brandywine Creek.

Similar to Wetland A, suitable functions and values of the PFO Wetland B include groundwater recharge, sediment/toxicant retention, and nutrient removal. The wetland dominantly consists of boxelder maple (*Acer negundo*) vegetation and is located outside the floodplain of East Branch Brandywine Creek, within a previously developed area.

The completed wetland functional assessment forms and associated example list of qualifiers is included in Appendix D.

5.0 Summary of Results

Preliminary investigations of available mapping identified East Branch Brandywine Creek and its tributary as well as hydric areas within the immediate project area. Field investigation identified East Branch Brandywine Creek, one unnamed tributary to East Branch Brandywine Creek, and two wetlands within the project limits. The function and value of the wetland areas are primarily groundwater recharge, sediment/toxicant retention, and nutrient removal. East Branch Brandywine Creek (Main Stem, Shamona Creek to Confluence with West Branch) is classified as a warm water fishery with migratory fishes (WWF, MF) in the *Pennsylvania Code Title 25 Chapter 93 Water Quality Standards*. East Branch Brandywine Creek is not currently stocked with trout or known to support natural trout reproduction within the vicinity of the project area. Additionally, none of the identified resources are designated as exceptional value.

To facilitate pedestrian access to the proposed relocated train station, the project includes the construction of a pedestrian bridge over the East Branch Brandywine Creek to connect the Johnsontown Park and Brandywine Trail with the train station. As such, it is anticipated that the project will require authorization through a Chapter 105 permit from the PADEP and a Section 404 permit from the US Army Corps of Engineers. Although the project will likely impact the delineated wetlands, since both wetlands are isolated and below the PADEP de minimus area of 0.05 acres, mitigation is not anticipated. As required, as part of the design process, opportunities to avoid or minimize impacts to regulated resources will be examined.

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6.0 References

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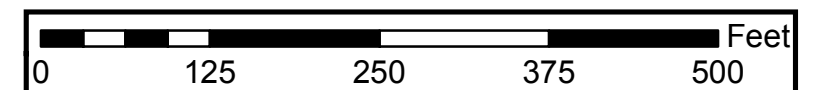
Appendix A

Wetland and Waterway Delineation Map



Downingtown Train Station Relocation Project **Waterway and Wetland Delineation** **Downingtown Borough, Chester County, PA**

Delineation completed on August 14, 2015 using methods outlined in the U.S. Army Corps. of Engineers Wetlands Delineation Manual and the Eastern Mountains and Piedmont Regional Supplement.



Appendix B

Routine Onsite Determination Data Forms

WETLAND DETERMINATION DATA FORM-Eastern Mountains and Piedmont

Project/Site: Downingtown Train Station City/County: Chester Sampling Date: 14-Aug-15
Applicant/Owner: PennDOT Bureau of Public Transportation State: PA Sampling Point: SP-1
Investigator(s): R. Traylor and M. McCurdy Section, Township, Range: _____ City of Downingtown
Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave
Slope (%): 0% - 1% Lat: 40.001982 Long: -75.704485 Datum: NAD 1983
Soil Map Unit Name: Thorndale silt loam (Th) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation no, Soil yes, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No _____
Hydric Soil Present? Yes X No _____
Wetland Hydrology Present? Yes X No _____

Is the Sampled Area within a Wetland? Yes X No _____
If yes, optional Wetland Site ID: Wetland A

Remarks: (Explain alternative procedures here or in a separate report.)
Sampling point is located in southwest region of project area.

Normal circumstances are not present because the entire project area, including Wetland A, has been previously disturbed and includes many areas of fill and debris.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required, check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<u>X</u> <input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<u>X</u> <input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographic Relief (D4)
<u>X</u> <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches):	<u>N/A</u>
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches):	<u>N/A</u>
Saturation Present?	Yes _____	No <u>X</u>	Depth (inches):	<u>N/A</u>

(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Last precipitation event was 2 days prior to field view.

Tree Stratum	(Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1.		0%			Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2.					
3.					
4.					
5.					
6.					
7.					
		0% = Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15 ft. radius</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1.					
2.					
3.					
4.					
5.					
6.					
7.					
		0% = Total Cover			
Herb Stratum	(Plot size: <u>5 ft. radius</u>)				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <i>Impatiens capensis</i> (jewelweed)		90	Y	FACW	
2. <i>Euthamia graminifolia</i> (lance-leaved goldenrod)		10	N	FAC	
3. <i>Persicaria sagittata</i> (arrowleaf tearthumb)		5	N	OBL	
4. <i>Juncus effusus</i> (lamp rush)		2	N	FACW	
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
		107% = Total Cover			
Woody Vine Stratum	(Plot size: <u>30 ft. radius</u>)				Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vines - All woody vines greater than 3.28 ft in height.
1.					
2.					
3.					
4.					
5.					
		0% = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet). 2013 NWPL used.					Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10 YR 2/1	100	N/A	N/A	N/A	N/A	fine	
2-14	10 YR 5/2	60	10 YR 5/6	35	C	M	fine	
			10 YR 2/1	5	D	M		
14-16+	10 YR 2/1	70	10 YR 5/6	30	C	M	fine	

¹Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☒ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147, 148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (MLRA 147)
- ☐ Coast Prairie Redox (A16) (MLRA 147, 148)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X

No

Remarks:

WETLAND DETERMINATION DATA FORM-Eastern Mountains and Piedmont

Project/Site: Downingtown Train Station City/County: Chester Sampling Date: 14-Aug-15
Applicant/Owner: PennDOT Bureau of Public Transportation State: PA Sampling Point: SP-2
Investigator(s): R. Traylor and M. McCurdy Section, Township, Range: _____ City of Downingtown
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex
Slope (%): 1% - 5% Lat: 40.002021 Long: -75.704502 Datum: NAD 1983
Soil Map Unit Name: Thorndale silt loam (Th) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation no, Soil yes, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
Sampling point is located in southwest region of project area.

Normal circumstances are not present because the entire project area, including Wetland A, has been previously disturbed and includes many areas of fill and debris.

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required, check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): <u>N/A</u>	
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): <u>N/A</u>	
Saturation Present? Yes _____ No <u>X</u> (includes capillary fringe)	Depth (inches): <u>N/A</u>	
Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Last precipitation event was 2 days prior to field view.		

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft. radius</u>)				
1. <u><i>Ailanthus altissima</i> (tree-of-heaven)</u>	20%	Y	FACU	
2. <u><i>Robinia pseudoacacia</i> (black locust)</u>	10%	Y	FACU	
3. <u><i>Salix nigra</i> (black willow)</u>	5%	N	OBL	
4. _____				
5. _____				
6. _____				
7. _____				
	35%	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft. radius</u>)				
1. <u><i>Rosa multiflora</i> (multiflora rose)</u>	50	Y	FACU	
2. <u><i>Platanus occidentalis</i> (American sycamore)</u>	30	Y	FACW	
3. <u><i>Robinia pseudoacacia</i> (black locust)</u>	5	N	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
	85%	= Total Cover		
Herb Stratum (Plot size: <u>5 ft. radius</u>)				
1. <u><i>Microstegium vimineum</i> (Japanese stilt grass)</u>	60	Y	FAC	
2. <u><i>Lythrum salicaria</i> (purple loosestrife)</u>	15	N	FACW	
3. <u><i>Solidago altissima</i> (tall goldenrod)</u>	15	N	FACU	
4. <u><i>Trifolium repens</i> (white clover)</u>	2	N	FACU	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	92%	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft. radius</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
	0%	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0¹

_____ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet).

2013 NWPL used.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10 YR 3/2	100	N/A	N/A	N/A	N/A	fine	Encountered rock refusal at 2 inches.

¹Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147, 148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (MLRA 147)
- ☐ Coast Prairie Redox (A16) (MLRA 147, 148)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock refusal

Depth (inches): 2 in.

Hydric Soil Present?

Yes

No X

Remarks:

WETLAND DETERMINATION DATA FORM-Eastern Mountains and Piedmont

Project/Site: Downingtown Train Station City/County: Chester Sampling Date: 14-Aug-15
Applicant/Owner: PennDOT Bureau of Public Transportation State: PA Sampling Point: SP-3
Investigator(s): R. Traylor and M. McCurdy Section, Township, Range: _____ City of Downingtown
Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave
Slope (%): 0% - 1% Lat: 40.001654 Long: -75.704703 Datum: NAD 1983
Soil Map Unit Name: Thorndale silt loam (Th) NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)

Are Vegetation no, Soil yes, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No _____
Hydric Soil Present? Yes X No _____
Wetland Hydrology Present? Yes X No _____

Is the Sampled Area within a Wetland? Yes X No _____
If yes, optional Wetland Site ID: Wetland B

Remarks: (Explain alternative procedures here or in a separate report.)
Sampling point is located in southwest region of project area.

Normal circumstances area not present because the entire project area, including Wetland B, has been previously disturbed and includes many areas of fill and debris.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required, check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches):	<u>N/A</u>
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches):	<u>N/A</u>
Saturation Present?	Yes _____	No <u>X</u>	Depth (inches):	<u>N/A</u>

(includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Last precipitation event was 2 days prior to field view.

Tree Stratum	(Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer negundo</u> (boxelder maple)		40%	Y	FAC
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
		40% = Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Sambucus nigra</u> (black elder)		5	Y	FAC
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
		5% = Total Cover		
Herb Stratum	(Plot size: <u>5 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Laportea canadensis</u> (Canadian wood-nettle)		20	Y	FACU
2. <u>Rosa multiflora</u> (multiflora rose)		5	Y	FAC
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
		25% = Total Cover		
Woody Vine Stratum	(Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		0% = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0¹

_____ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet).

2013 NWPL used.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10 YR 3/1	100	N/A	N/A	N/A	N/A	fine	
4-14	Gley 1 5/N	100	N/A	N/A	N/A	N/A	fine	
14-18+	Gley 1 3/N	80	5Y 6/1	20	D	M	fine	

¹Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147, 148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☒ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (MLRA 147)
- ☐ Coast Prairie Redox (A16) (MLRA 147, 148)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes X

No

Remarks:

White streaks believed to be associated with industrial fill were observed within the layer of 14 - 18 + inches.

WETLAND DETERMINATION DATA FORM-Eastern Mountains and Piedmont

Project/Site: Downingtown Train Station City/County: Chester Sampling Date: 14-Aug-15
Applicant/Owner: PennDOT Bureau of Public Transportation State: PA Sampling Point: SP-4
Investigator(s): R. Traylor and M. McCurdy Section, Township, Range: _____ City of Downingtown
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
Slope (%): 5% Lat: 40.001598 Long: -75.704708 Datum: NAD 1983
Soil Map Unit Name: Thorndale silt loam (Th) NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks)
Are Vegetation no, Soil yes, or Hydrology no significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation no, Soil no, or Hydrology no naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No X
Hydric Soil Present? Yes _____ No X
Wetland Hydrology Present? Yes _____ No X

Is the Sampled Area within a Wetland? Yes _____ No X
If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
Sampling point is located in southwest region of project area.

Normal circumstances are not present because the entire project area, including Wetland A, has been previously disturbed and includes many areas of fill and debris.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required, check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Iron Deposits (B5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No <u>X</u>	Depth (inches): <u>N/A</u>
Water Table Present?	Yes _____ No <u>X</u>	Depth (inches): <u>N/A</u>
Saturation Present?	Yes _____ No <u>X</u>	Depth (inches): <u>N/A</u>

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gage, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Last precipitation event was 2 days prior to field view.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status	
Dominance Test worksheet:				
Number of Dominant Species That Are OBL, FACW, or FAC:				<u>1</u> (A)
Total Number of Dominant Species Across All Strata:				<u>5</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:				<u>20%</u> (A/B)
Prevalence Index worksheet:				
Total % Cover of:		Multiply by:		
OBL species	<u> </u>	x 1 =	<u> </u>	
FACW species	<u> </u>	x 2 =	<u> </u>	
FAC species	<u> </u>	x 3 =	<u> </u>	
FACU species	<u> </u>	x 4 =	<u> </u>	
UPL species	<u> </u>	x 5 =	<u> </u>	
Column Totals:	<u> </u> (A)	<u> </u> (B)		
Prevalence Index = B/A = <u> </u>				
Hydrophytic Vegetation Indicators:				
<u> </u> 1 - Rapid Test for Hydrophytic Vegetation				
<u> </u> 2 - Dominance Test is >50%				
<u> </u> 3 - Prevalence Index is ≤3.0 ¹				
<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)				
<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody Vines - All woody vines greater than 3.28 ft in height.				
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>				
<div> <div>Tree Stratum</div> <div>(Plot size: 30 ft. radius)</div> <div> <div>1. <i>Juglans nigra</i> (black walnut)</div> <div>60%</div> <div>Y</div> <div>FACU</div> </div> <div>2. <i>Lonicera morrowii</i> (morrow honeysuckle)</div> <div>50%</div> <div>Y</div> <div>FACU</div> </div> <div>3. </div> <div>4. </div> <div>5. </div> <div>6. </div> <div>7. </div> <div>110% = Total Cover</div>				

Sapling/Shrub Stratum

(Plot size: 15 ft. radius)

1. *Rosa multiflora* (multiflora rose)

5

Y

FACU

2.

3.

4.

5.

6.

7.

5% = Total Cover

Herb Stratum

(Plot size: 5 ft. radius)

1. *Rubus pergratus* (upland blackberry)

5

Y

FACU

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

5% = Total Cover

Woody Vine Stratum

(Plot size: 30 ft. radius)

1. *Lonicera japonica* (Japanese honeysuckle)

40%

Y

FAC

2.

3.

4.

5.

40% = Total Cover

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10 YR 5/4	100	N/A	N/A	N/A	N/A	fine	Believed to be fill
3-12+	10 YR 5/3	100	N/A	N/A	N/A	N/A	fine	Believed to be fill

¹Type: C=concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) (LRR N)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (MLRA 147, 148)
- ☐ Thin Dark Surface (S9) (MLRA 147, 148)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- ☐ Umbric Surface (F13) (MLRA 136, 122)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 148)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (MLRA 147)
- ☐ Coast Prairie Redox (A16) (MLRA 147, 148)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes

No X

Remarks:

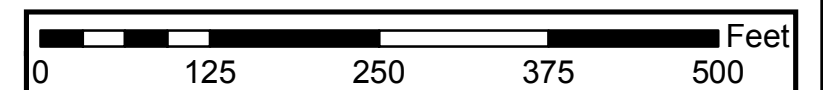
Appendix C

Photograph Log & Photograph Location Map



**Downingtown Train Station Relocation Project
 Waterway and Wetland Delineation
 Photograph Location Map
 Downingtown Borough, Chester County, PA**

Delineation completed on August 14, 2015
 using methods outlined in the U.S. Army Corps.
 of Engineers Wetlands Delineation Manual
 and the Eastern Mountains and Piedmont
 Regional Supplement.



Appendix C
Downingtown Train Station Relocation Project
Downingtown Borough, Chester County, Pennsylvania



Photograph 1: View of southeast project area along Logan Avenue, facing west.



Photograph 2: View of vacant, residential parcels within southeast project area, facing southwest.

Appendix C
Downingtown Train Station Relocation Project
Downingtown Borough, Chester County, Pennsylvania



Photograph 3: View of northeast project area, facing northeast.



Photograph 4: View of existing railroad bridge, facing north.

Appendix C
Downingtown Train Station Relocation Project
Downingtown Borough, Chester County, Pennsylvania



Photograph 5: View of existing railroad bridge, facing south.



Photograph 6: View of northern project area, facing west.



Photograph 7: View of northwest project area, facing west.



Photograph 8: View of Tributary 1 origin point, facing north.



Photograph 9: View of southern project area adjacent to the south side of Tributary 1, facing east.



Photograph 10: View of Tributary 1 as it exits through culvert, facing west.



Photograph 11: View of southwest project area, facing south.



Photograph 12: View of southwest project area, facing east.



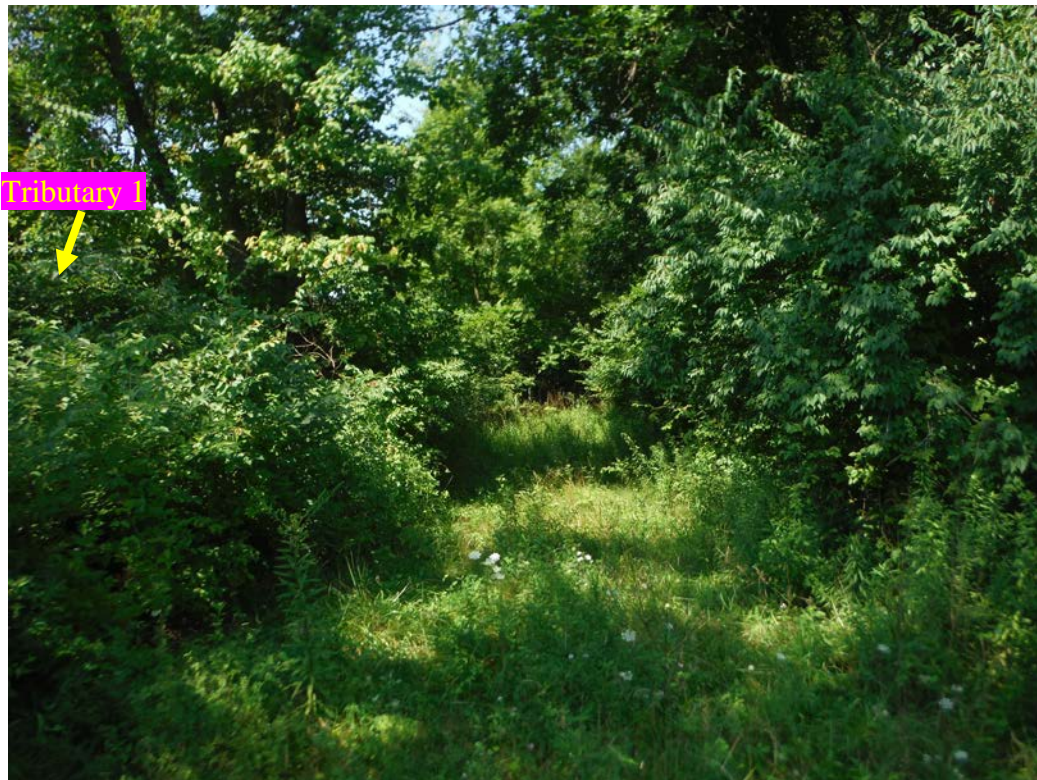
Photograph 13: View of Wetland Area A (SP-1), facing southeast.



Photograph 14: View of concrete impoundment within southwest project area, facing southeast.



Photograph 15: View of Wetland Area B (SP-3), facing southwest.



Photograph 16: View of southwest project area adjacent to the north side of Tributary 1, facing west.



Photograph 17: View of East Branch Brandywine Creek at area of proposed pedestrian bridge, facing northwest.



Photograph 18: View of East Branch Brandywine Creek at area of proposed pedestrian bridge, facing southeast.

Appendix D

Wetland Function-Value Evaluation Forms

Wetland ID: Wetland A Latitude: 40.001982 N Longitude: -75.704485 W Corps manual wetland delineation completed Yes
 Prepared by: Rebecca Traylor and Mo McCurdy Date: 8-14-2015 Evaluation based on: Office? Y Field? Y
 Wetland Impact Type: Permanent Area: 0.015 acres

Wetland Function-Value Evaluation Form

U.S. Army Corps of Engineers - New England District Descriptive Method

Total area of wetland: 0.015 acres (within study area) Human made? N Is wetland part of wildlife corridor? N or a "habitat island"? N
 Adjacent land use: stream, industrial, commercial Distance to nearest roadway or other development? 570 feet
 Dominant wetland systems present: PEM Contiguous undeveloped buffer zone present? Yes
 Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? N/A
 How many tributaries contribute to the wetland? N/A Wildlife & vegetation diversity/abundance N

Function/Value	Suitability Y N		Rationale (Reference #)	Principal Function(s)/ Value(s)	Comments
Groundwater Recharge/Discharge	Y		5	X	Wetland is located at a toe of slope and likely collects drainage. Since no fragipan is present, water may recharge.
Floodflow Alteration		N	5, 6, 9		Wetland is small in area. May provide marginal floodflow alternation
Fish and Shellfish Habitat		N			Wetland is not associated with a perennial watercourse. During the field view, no standing or moving water was observed.
Sediment/Toxicant Retention	Y		1, 2, 4, 9	X	Watershed mainly consists of commercial development and vacant land. Wetland is not associated with a perennial watercourse.
Nutrient Removal	Y		4, 8, 9, 10, 11	X	
Production Export		N	2, 12		Potential exists for insects to use this wetland.
Sediment/Shoreline Stabilization		N	2, 3		Wetland is not associated with a stream. Ongoing development is a source of sediment.
Wildlife Habitat		N	7, 13		Potential habitat for insects but not fish or amphibians since wetland is not associated with a stream.
Recreation		N			Land is privately owned and the wetland is not associated with a perennial watercourse.
Educational/Scientific Value		N			Privately owned land with non-unique, relatively small wetland. No parking or public access available.
Uniqueness/Heritage		N	1, 2, 22		

Wetland ID: Wetland A Latitude: 40.001982 N Longitude: -75.704485 W Corps manual wetland delineation completed Yes
 Prepared by: Rebecca Traylor and Mo McCurdy Date: 8-14-2015 Evaluation based on: Office? Y Field? Y
 Wetland Impact Type: Permanent Area: 0.015 acres

Visual Quality/Aesthetics		N	11, 12		Privately owned, typical emergent wetland.
Endangered Species Habitat		N	N/A		
Other		N/A	N/A		

Wetland ID: Wetland B Latitude: 40.001654 N Longitude: -75.704703 W Corps manual wetland delineation completed Yes
 Prepared by: Rebecca Traylor and Mo McCurdy Date: 8-14-2015 Evaluation based on: Office? Y Field? Y
 Wetland Impact Type: Permanent Area: 0.025 acres

Wetland Function-Value Evaluation Form

U.S. Army Corps of Engineers - New England District Descriptive Method

Total area of wetland: 0.025 acres (within study area) Human made? N Is wetland part of wildlife corridor? N or a "habitat island"? N
 Adjacent land use: stream, industrial, commercial Distance to nearest roadway or other development? 590 feet
 Dominant wetland systems present: PFO Contiguous undeveloped buffer zone present? Yes
 Is the wetland a separate hydraulic system? Y If not, where does the wetland lie in the drainage basin? N/A
 How many tributaries contribute to the wetland? N/A Wildlife & vegetation diversity/abundance N

Function/Value	Suitability Y N		Rationale (Reference #)	Principal Function(s)/ Value(s)	Comments
Groundwater Recharge/Discharge	Y	N	5	X	No signs of groundwater discharge were observed during the field view.
Floodflow Alteration		N	5, 6, 9		Wetland is not associated with the surrounding streams and is not within the floodplain. Wetland is small in size and as such, provides marginal attenuation potential.
Fish and Shellfish Habitat		N			Wetland is not associated with a perennial watercourse. During the field view, no standing or moving water was observed.
Sediment/Toxicant Retention	Y		1, 2, 4, 9	X	Watershed mainly consists of commercial development and vacant land. Wetland is not associated with a perennial watercourse.
Nutrient Removal	Y		3, 10	X	
Production Export		N			Potential exists for insects to use this wetland.
Sediment/Shoreline Stabilization		N			Wetland is not associated with a stream.
Wildlife Habitat		N	7		Potential habitat for insects but not fish or amphibians since wetland is not associated with a stream.
Recreation		N			Land is privately owned and the wetland is not associated with a perennial watercourse.
Educational/Scientific Value		N	11		Privately owned land with non-unique, relatively small wetland. No parking or public access available.
Uniqueness/Heritage		N	1, 2, 22		

Wetland ID: Wetland B Latitude: 40.001654 N Longitude: -75.704703 W Corps manual wetland delineation completed Yes
 Prepared by: Rebecca Traylor and Mo McCurdy Date: 8-14-2015 Evaluation based on: Office? Y Field? Y
 Wetland Impact Type: Permanent Area: 0.025 acres

Visual Quality/Aesthetics		N	11, 12		Privately owned, typical forested wetland.
Endangered Species Habitat		N	N/A		
Other		N/A	N/A		

Appendix A

Wetland evaluation supporting documentation; Reproducible forms.

Below is an example list of considerations that was used for a New Hampshire highway project. Considerations are flexible, based on best professional judgment and interdisciplinary team consensus. This example provides a comprehensive base, however, and may only need slight modifications for use in other projects.



GROUNDWATER RECHARGE/DISCHARGE— This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g., springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Piezometer data demonstrates discharge.
17. Other



FLOODFLOW ALTERATION (Storage & Desynchronization) — This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

FISH AND SHELLFISH HABITAT (FRESHWATER) — This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.



CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other

Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. The following is an example provided by the National Marine Fisheries Service (NMFS) of an adaptation for the fish and shellfish function.

FISH AND SHELLFISH HABITAT (MARINE) — This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

CONSIDERATIONS/QUALIFIERS

1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Essential fish habitat, as defined by the 1996 amendments to the Magnuson-Stevens Fishery & Conservation Act, is present (consultation with NMFS may be necessary).
7. Other



SEDIMENT/TOXICANT/PATHOGEN RETENTION — This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens in runoff water from surrounding uplands or upstream eroding wetland areas.

CONSIDERATIONS/QUALIFIERS

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.

10. Wetland is associated with an intermittent or perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.
17. Other



NUTRIENT REMOVAL/RETENTION/TRANSFORMATION — This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

CONSIDERATIONS/QUALIFIERS

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.

4. Potential sources of excess nutrients are present in the watershed above the wetland.
 5. Wetland saturated for most of the season. Pondered water is present in the wetland.
 6. Deep organic/sediment deposits are present.
 7. Slowly drained fine grained mineral or organic soils are present.
 8. Dense vegetation is present.
 9. Emergent vegetation and/or dense woody stems are dominant.
 10. Opportunity for nutrient attenuation exists.
 11. Vegetation diversity/abundance sufficient to utilize nutrients.
- STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.
12. Waterflow through this wetland is diffuse.
 13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
 14. Water moves slowly through this wetland.
 15. Other

PRODUCTION EXPORT (Nutrient) — This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.



CONSIDERATIONS/QUALIFIERS

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland.
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. “Flushing” of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other

SEDIMENT/Shoreline Stabilization — This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.



CONSIDERATIONS/QUALIFIERS

1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.
7. Wide wetland (>10') borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other



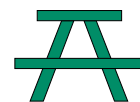
WILDLIFE HABITAT — This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.¹

CONSIDERATIONS/QUALIFIERS

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersed vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses)
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).
24. Other

¹In March 1995, a rapid wildlife habitat assessment method was completed by a University of Massachusetts research team with funding and oversight provided by the New England Transportation Consortium. The method is called WEThings (wetland habitat indicators for non-game species). It produces a list of potential wetland-dependent mammal, reptile, and amphibian species that may be present in the wetland. The output is based on observable habitat characteristics documented on the field data form. This method may be used to generate the wildlife species list recommended as backup information to the wetland evaluation form and to augment the considerations. Use of this method should first be coordinated with the Corps project manager. A computer program is also available to expedite this process.

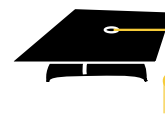
RECREATION (Consumptive and Non-Consumptive) — This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.



CONSIDERATIONS/QUALIFIERS

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

EDUCATIONAL/SCIENTIFIC VALUE — This value considers the suitability of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.



CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.
12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other

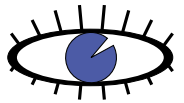


UNIQUENESS/HERITAGE — This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams, occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersed vegetation and/or open water occur in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.
28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other

VISUAL QUALITY/AESTHETICS — This value considers the visual and aesthetic quality or usefulness of the wetland.



CONSIDERATIONS/QUALIFIERS

1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

ENDANGERED SPECIES HABITAT — This value considers the suitability of the wetland to support threatened or endangered species.

ES

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.

Appendix E

Qualifications of Preparers

Years of Experience: 11

Degrees

M.S., Environmental Studies,
University of Pennsylvania

B.S., Natural Resource
Management, Rutgers University

Licenses/Certifications

Professional Wetland Scientist
(PWS)

Certified Ecologist (CE)

NEPA and the Transportation
Decision Making Process, National
Highway Institute, Federal Highway
Administration, 2005

Rutgers University Wetland
Delineator Program, 2004

Rebecca Traylor, PWS, CE

Environmental Technical Manager

General Qualifications

Rebecca Traylor has over 11 years of experience as an environmental permitting specialist and has served as the Environmental Lead for numerous bridge and highway projects. Ms. Traylor manages the Environmental Services and Water Resources staff in New Jersey. She has practical experience and training in the implementation of the requirements of the National Environmental Policy Act of 1969 (NEPA), ecological assessments, wetland delineation, environmental studies, and state and federal environmental permitting for the transportation industry. She has successfully completed NEPA documentation, including Section 4(f) evaluations and Section 106 coordination, for numerous projects. Through the permit review process, Ms. Traylor has developed relationships with the reviewers at the regulatory agencies and has worked with these agencies to identify issues and develop agreeable resolutions efficiently. Additionally, Ms. Traylor is Professional Wetland Scientist and Certified Ecologist. She delineated wetlands following the United States Army Corps of Engineers Wetland Delineation Manual,

Federal Manual for Identifying and Delineating Jurisdictional Wetlands, and NJ Pinelands Manual for Delineating Pinelands Wetlands. She has delineated wetlands in NJ, NY, and PA.

Selected Experience

S.R. 1015 over Tunkannock Creek. Pennsylvania Department of Transportation, District 4-0. Environmental Lead overseeing compliance and in responsible charge of the delineation of Waters of the US including wetlands in accordance with the 1987 USACE Wetland Delineation Manual. Coordinated with PADEP, PAFBC, USACE, and Soil Conservation District. Prepared NEPA CED as well as prepared and assembled documents in support of a Joint Permit Application for a Pennsylvania Water Obstruction and Encroachment Permit #11 and USACE Section 404 Permit Application. The project involved the replacement of a single span structure with a box culvert.

Facilities Improvement Program Final Design Services. New Jersey Turnpike Authority. Environmental Lead overseeing compliance and in responsible charge of the completion of environmental studies, NJ EO215 EIS and EAs, NJSHPO review, stormwater management design, SESC Certifications for maintenance facilities in the Turnpike North Contract. Environmental Studies included wetland investigations, hazardous waste screening, air quality studies, cultural resources, and threatened and endangered species habitat. Baker provided full service environmental services for final design including NJDEP Freshwater Wetlands Permits, Flood Hazard Area Permits, Meadowlands Commission coordination, and Delaware and Raritan Canal Commission coordination.

Burlington County Route 530 Improvement. Delaware Valley Regional Planning Commission. Environmental Lead overseeing compliance and in responsible charge of permitting and completion of screening studies (air, noise, ecology, hazardous waste, environmental justice, architectural, and archeology) and documentation including wetland delineations; NEPA documentation (CED, Section 106, Section 4(f), Section 7, Environmental Re-Evaluations); facilitating targeted surveys for Federal, State, and Pinelands species; and development of the stormwater management plan. Responsible for preparation of NJDEP Individual Freshwater Wetlands and Flood Hazard Area Control Act Permits, NJDEP Green Acres Diversion, and New Jersey Register of Historic Places Act. Responsible for developing compensatory mitigation plans for wetlands, riparian zones, and wood turtle habitat. Oversaw wood turtle construction monitoring. All work is being completed in accordance with NJDOT Procedures Manual, and State and Federal environmental regulations.

Route 280/21 Interchange Improvements. New Jersey Department of Transportation. Environmental Lead overseeing compliance and in responsible charge of management of environmental tasks for permitting and compliance with NEPA CED commitments during final design services for this \$100M complex interchange reconstruction in Newark. Environmental permitting included NJDEP Flood Hazard Area, Waterfront Development, USACE Jurisdictional Determination and Section 404 Nationwide. Stipulation requirements of the NJSHPO Section 106 Memorandum of Agreement require oversight of Phase Ib and Phase II Archaeological Surveys, aesthetic design consultation, vibration monitoring and protection of the historic Plume House and preparation of Historic Structures Report. Developed soil erosion and sediment control features per NJDOT requirements. All work is being completed in accordance with NJDOT Procedures Manual, and State and Federal environmental regulations.

Merion Park Drainage and Roadway Improvement Project. City of Ocean City. Environmental Task Lead responsible for environmental investigations and wetland delineation, development of USACE Jurisdictional Determination, USACE Section 404 Permit, NJDEP Coastal Wetlands, Coastal Area Facilities Review Act and Waterfront Development Permits, and coordination with NJDEP Green Acres Program to obtain authorization to temporarily occupy the property during construction. Led coordination efforts with NJDEP Division of Fish and Wildlife and USFWS pertaining to threatened and endangered species.

Amelia Earhart Boulevard Roadway Widening. South Jersey Transportation Authority. Environmental Manager. Responsible for documentation in support of a Federal Aviation Administration NEPA Environmental Assessment. This effort included the completion of an environmental screening to identify sensitive resources including but not limited wetlands, flood hazard areas, threatened or endangered species habitat, cultural resources, sensitive receptors to air and noise, socioeconomics, parkland, and hazardous material. Oversaw the completion of a Phase 1B Archaeological Survey and Section 106 consultation with the NJ State Historic Preservation Office. Led wetland delineation and was responsible for the development of a HEC-RAS study to establish the regulatory flood hazard area.

Variable Message Sign (VMS) Replacements, Contract Nos. A600.102A, A600.102B, A600.102C, A600.102D New Jersey Turnpike Authority. Environmental Specialist for Contract A for the installation of 33 VMS along the NJ Turnpike and GSP, and Contracts B-D for the installation of 90 VMS on the NJ Turnpike. Responsibilities included performing an environmental screening, wetland delineation, identification of permit requirements, coordination to avoid and minimize permitting, preparation of permit applications at various locations including NJDEP Freshwater Wetlands (FWW) Permits, NJDEP Waterfront Development (WFD) Permits, Soil Erosion and Sediment Control (SESC) Certification, NJDEP Flood Hazard Area Control Act (FHACA) Individual Permits and Permits-by-rule. As part of all 4 of these construction projects, 14 FWW Permits, 10 FHACA Permits-by-rule, 2 FHACA Permits, 2 WFD Permits, and 16 SESC certifications were obtained. Additionally, oversaw the identification of sites with potential for ID-27 waste and acid producing soils.

Design and Environmental Permitting for Improvements at Interchange 9. New Jersey Turnpike Authority. Environmental Specialist responsible for the completion of environmental studies, NJ EO215 Environmental Impact Statement, stormwater management design, Freehold Conservation District Soil Erosion and Sediment Control Plan Certification for \$30M operational improvements at the Route 18 interchange with the New Jersey Turnpike. Environmental Studies included wetland investigations, hazardous waste screening, air quality and noise impact studies, cultural resources, Green Acres parkland, NJ No Net Loss Reforestation, socioeconomics, and threatened and endangered species habitat. Baker, as a subconsultant, provided full service environmental support for Conceptual Plan Development, Alternatives Analyses, EO 215 EIS documentation, and Preliminary and Final Design.

Capital Project Del-150 Study/Design for the Reconstruction of Bridges and Culverts in the Delaware Watershed New York City Department of Environmental Protection. Environmental Specialist responsible for the delineation of jurisdiction wetlands at 11 locations within the Roundout Reservoir, Sullivan County and the Cannonsville and Pepacton Reservoirs in Delaware County. Wetlands were delineated as per the US Army Corps of Engineers Wetland Delineation Manual (1987) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2009). Responsible for developing the Regulatory Transition Plan for Design to Construction

including the compilation all permits and authorizations. The project included CEQR Determination, USFWS coordination, USACE Nationwide Permits, and coordination with NY State Department of Environmental Conservation.

Guide Sign Improvements on the NJ Turnpike and GSP (2012–Present) New Jersey Turnpike Authority. Environmental Team Lead (subconsultant) for the upgrade of guide signing to bring the Authority into substantial conformance with 2009 MUTCD. This \$100M project involves replacement of 1,000 guide sign panels, installation of 250 new sign structures, and replacement of 150 aluminum sign structures. Responsibilities included performing an environmental screening, wetland delineation, identification of permit requirements, coordination to avoid and minimize permitting, preparation of permit applications at various locations including NJDEP Freshwater Wetlands (FWW) Permits, NJDEP Waterfront Development (WFD) Permits, Soil Erosion and Sediment Control (SESC) Certification, NJDEP Flood Hazard Area Control Act (FHACA) Individual Permits and Permits-by-rule.

Delancy Street Roadway Improvements. City of Newark. Environmental Task Leader responsible for environmental permitting and completion of environmental studies (ecology, hazardous waste, flood hazard areas) and documentation including performing wetland delineations; preparing NEP documentation (Environmental Re-Evaluations); facilitating hazardous waste screening and site investigations; and oversight of the development of a stormwater management plan in accordance with the NJDEP requirements. Responsible for preparing NJDEP Freshwater Wetlands Protection Act and Flood Hazard Area Control Act Permits in addition to the preparation of a Hudson-Essex-Passaic Soil Conservation District certified Soil Erosion and Sediment Control Plan and NJPDES General Stormwater Permit for Construction (5G3).

Wetland Delineation, Salem-Hancock Road Repavement Project, Salem County, New Jersey. Salem County. Assisted in delineation of regulated wetlands and State Open Water following the procedures in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands within areas of expected impacts resulting from the proposed repaving project. Assessed prime environmental parameters related to the study by performing a review of available information, which included maps, publications and inquiries made to various government and private agencies.

Additional Training

Wetland Delineation, Rutgers University Wetland Delineator program, 2004
NJDEP, Endangered and Non-game Species Program, Vernal Pool Identification, 2004
NEPA and the Transportation Decision Making Process, National Highway Institute, 2005
Freshwater Wetland Construction Techniques, Rutgers Continuing Education, 2006
ID of Freshwater Wetland Sedges, Grasses, and Rushes, Institute for Wetland and Environmental Education and Research, 2007
NJDEP NJ Wetlands Manual Training Workshop, Cook College, Continuing Professional Education Program, 2008
Wetland Mitigation Monitoring, Rutgers NJAES Office of Continuing Professional Education, 2009
Section 4(f) for Specialists, PENNDOT, 2009
Implementation and Use of the Regional Supplements to the 1987 Delineation Manual, United States Army Corps of Engineers, 2009
New Jersey Department of Environmental Protection Freshwater Wetlands Protection Act Rules Review, Rutgers University Office of Continuing Education, 2009
Field Training for the Atlantic and Gulf Coastal Plain Regional Supplement, Society of Wetland Scientists, Mid-Atlantic Chapter, 2010
NJDEP Working With Your LSRP, Rutgers NJAES Continuing Professional Education Program, 2011.
NJDEP Environmental Land Use Regulations Seminar, Rutgers NJAES Continuing Professional Education Program, 2011.
Vegetation Identification for Wetland Delineation: Winter, Rutgers Office of Continuing Education, 2013

Mo McCurdy

Environmental Associate

General Qualifications

Mr. McCurdy is currently an Environmental Associate for Michael Baker's Harrisburg Water Resources and Environmental Department. Mr. McCurdy has one year of experience in natural resources, planning, and environmental issues. Mr. McCurdy has completed documentation for NEPA studies (EA and CEE), federal Section 404 permits, and Phase I environmental site assessments. Mr. McCurdy has experience in using ArcGIS for map creation and analysis. He is also familiar with and has assisted with wetland delineations and evaluation.

Experience

Harrisburg International Airport Runway 13-31 Rehabilitation, Middletown Borough and Lower Swatara Township, Dauphin County, Pennsylvania. *Susquehanna Area Regional Airport Authority*. Environmental Associate. Conducted wetland investigation and delineation and prepared the waterway and wetland delineation report. Utilized handheld survey GPS and ArcGIS to map waterway and wetland boundaries.

Statewide Transit Facility Compressed Natural Gas (CNG) Environmental Screening, Pennsylvania. *Pennsylvania Department of Transportation*. Environmental Associate. Responsible for conducting environmental screenings of several Pennsylvania county transit agencies to determine viability of proposed on-site compressed natural gas fill stations. Performed background research and site reconnaissance as part of the environmental screening report.

SR0241-011 and SR0241-012 (Bainbridge Road) over Conoy Creek Bridge Replacements, West Donegal Township, Lancaster County, Pennsylvania. *Pennsylvania Department of Transportation, District 8-0*. Environmental Associate. Prepared environmental documentation for registration of a GP-11 Chapter 105 state permit. Utilized the JPA-2 Expert System for permit submission.

Natural Gas Pipeline Preconstruction Survey, Susquehanna County, Pennsylvania. *Williams Midstream*. Environmental Associate. Assisted in wetland investigation and delineations over several miles of proposed midstream pipeline.

Natural Gas Pipeline Permitting, Susquehanna County, Pennsylvania. *Williams Midstream*. Environmental Associate. Performed post-construction monitoring on several miles of active pipeline. Completed associated wetland and stream assessments and identified potential erosion and sediment control issues.

County of Lackawanna Transit System Intermodal Facility, Scranton, Pennsylvania. *Pennsylvania Department of Transportation*. Environmental Associate. Responsible for conducting background research, environmental investigation and preparing documentation associated with a Phase I Environmental Site Assessment.

SR4011-015 (Fruitville Pike) over Bachman Run Bridge Replacement, Manheim Township, Lancaster County, Pennsylvania. *Pennsylvania Department of Transportation, District 8-0*. Environmental Associate. Prepared environmental documentation for registration of a GP-11 Chapter 105 state permit. Utilized the JPA-2 Expert System for permit submission.

Years with Baker: 1.5

Years with Other Firms: 1

Degrees

B.S., 2013, Environmental Protection, West Virginia University

Licenses/Certifications

OSHA 40-Hour Hazardous Waste Operations and Emergency Response Certification

SR1035-005 (Clay Road) over Middle Creek Bridge Replacement, Clay Township, Lancaster County, Pennsylvania. *Pennsylvania Department of Transportation, District 8-0*. Environmental Associate. Prepared environmental documentation for registration of a GP-11 Chapter 105 state permit. Utilized the JPA-2 Expert System for permit submission.

SR1003-01B (Wall Street) over the Schuylkill River Bridge Replacement, Leesport Borough, Berks County, Pennsylvania. *Pennsylvania Department of Transportation, District 5-0*. Environmental Associate. Prepared environmental documentation for evaluation of a state categorical exclusion. Utilized the Categorical Exclusion Expert System for CE submission.

Previous Work History

Analytical Laboratory Services, Organic Analyst, 2013-2014

- Analyzed soil and water samples using EPA methods.

Professional Affiliations

Pennsylvania Association of Environmental Professionals (PAEP)

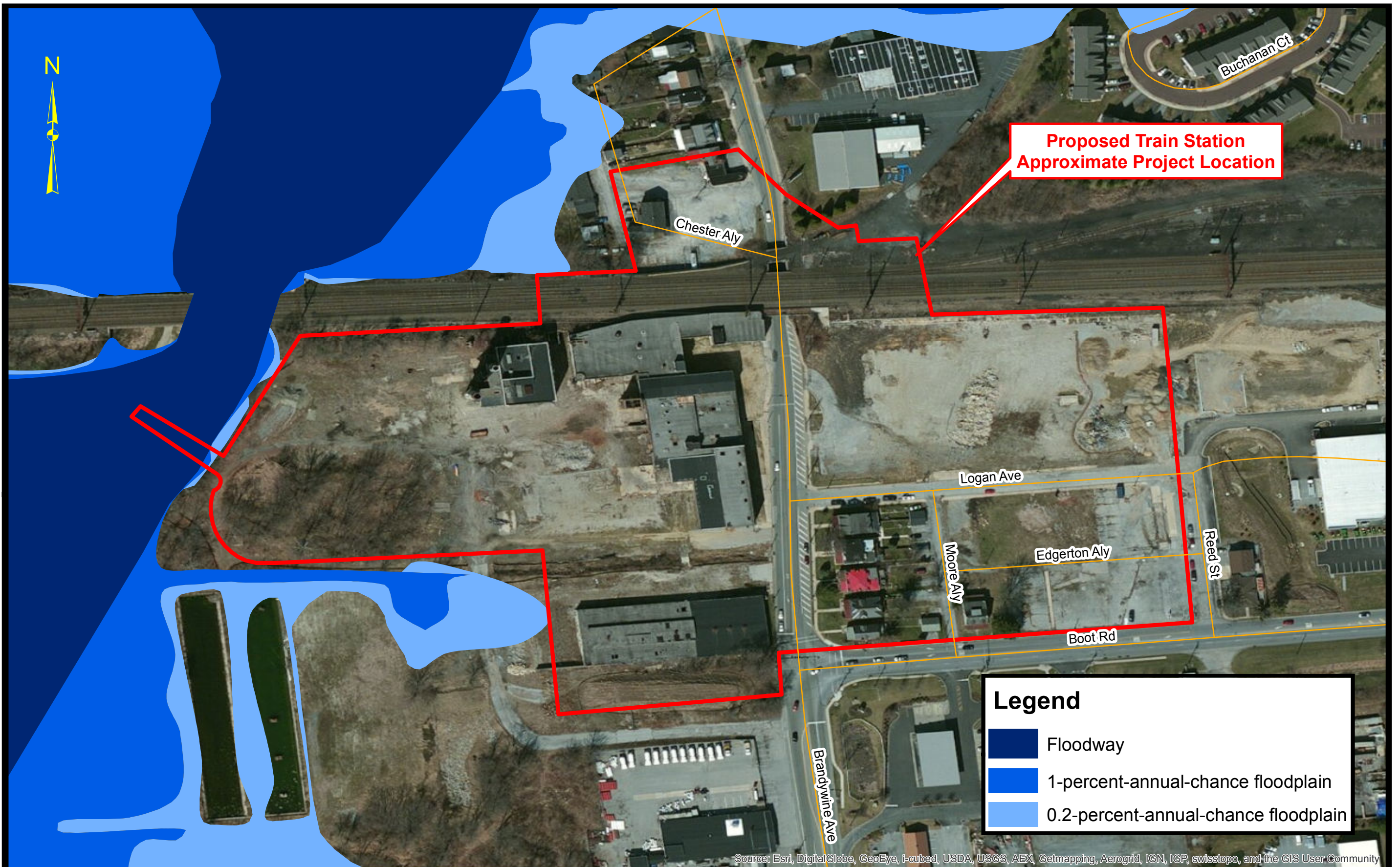
Continuing Education/Training

Basic Wetland Training, Wetland Training Institute, 2014



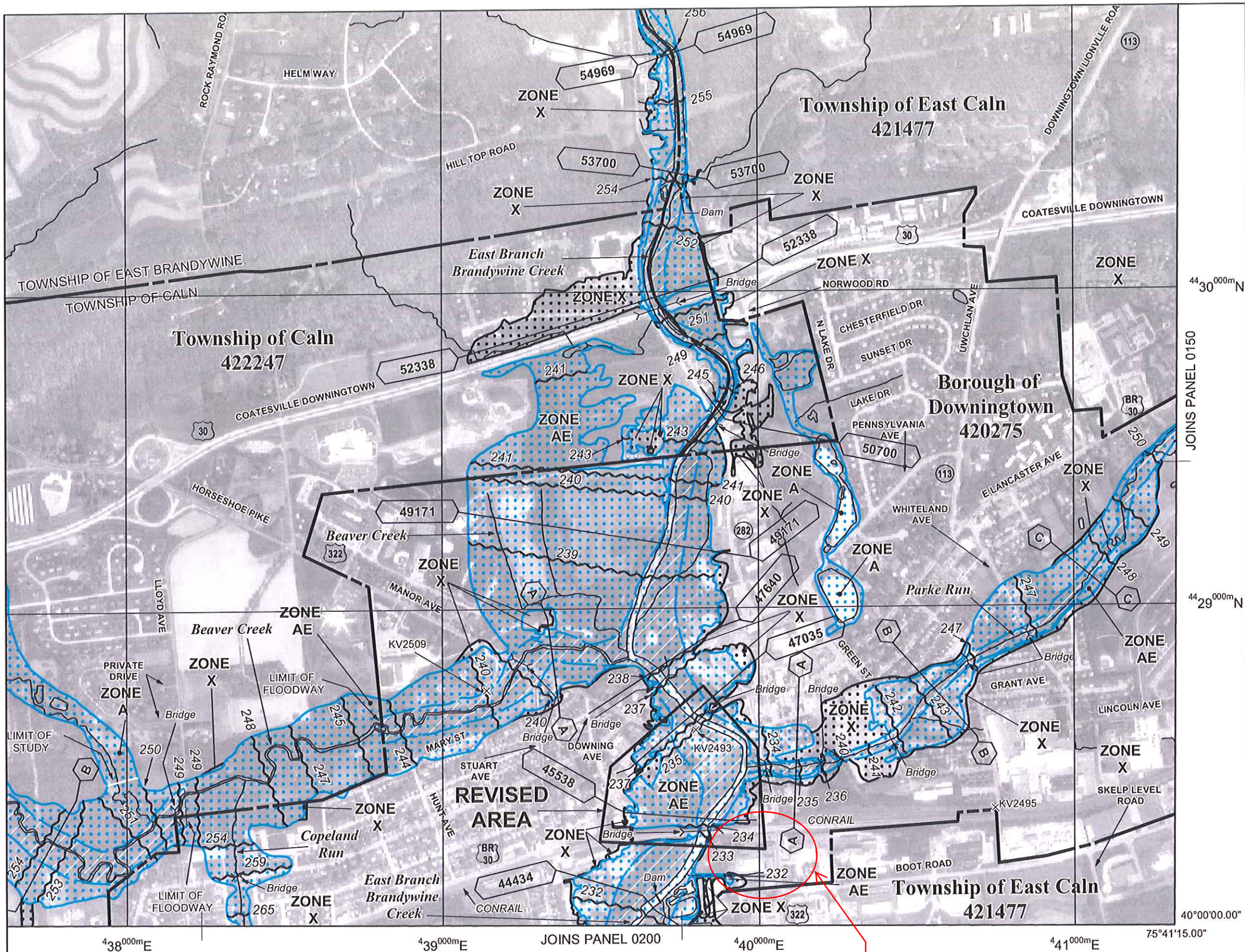
Appendix F

Floodplain Boundaries and Insurance Mapping



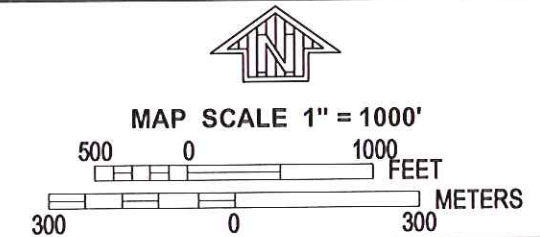
**Downingtown Train Station Project FEMA
Floodway and Floodplain Boundaries
Downingtown Borough, Chester County**

Michael Baker
INTERNATIONAL



Approximate Project Location

- Legend
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain



PANEL 0145F

FIRM
FLOOD INSURANCE RATE MAP

CHESTER COUNTY,
PENNSYLVANIA
(ALL JURISDICTIONS)

PANEL 145 OF 380
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CALN, TOWNSHIP OF	422247	0145	F
DOWNINGTOWN, BOROUGH OF	420275	0145	F
EAST BRANDYWINE, TOWNSHIP OF	421476	0145	F
UPPER LUDLOW, TWP OF	421477	0145	F
UPPER LUDLOW, TWP OF	421491	0145	F
UPPER LUDLOW, TWP OF	421492	0145	F

REVISED TO REFLECT LOMR
EFFECTIVE: September 30, 2009

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number above should be used on insurance applications for the subject community.

MAP NUMBER
42029C0145F

EFFECTIVE DATE
SEPTEMBER 29, 2006

FEDERAL EMERGENCY MANAGEMENT AGENCY



Appendix G

Site Contamination Analysis (On CD)



Appendix H

Noise Analysis



Downingtown Train Station Relocation

Noise Analysis

Agreement E02871 - Environmental
Work Order #2 - Downingtown Station NEPA
Task #1.8 - Noise Assessment Report
Deliverable #1.8 - General Noise Assessment Report

August 6, 2015



MEMORANDUM

To: Jennie Granger, Pennsylvania Department of Transportation (PennDOT)

From: Robyn Hartz and Andy Kuchta, Michael Baker International

Date: August 6, 2015

Subject: Downingtown Train Station Relocation Noise Analysis

1.0 Overview

This memorandum provides an overview of the methodology and the results associated with a noise analysis completed for the Downingtown Train Station Relocation.

2.0 Project Description

The proposed new train station will be located less than half a mile east of the existing location, just east of East Branch Brandywine Creek. The proposed train station will include side platforms, elevator/stair towers, a railroad bridge, a pedestrian bridge, retaining walls, and parking. As shown in Attachment A, the project area is at the intersection of the rail line with Brandywine Avenue, with a vast majority of the project footprint located in the southwestern and southeastern quadrants.

3.0 Methodology and Noise Impact Criteria

As described above, the project consists of relocating an existing train station to a location less than half a mile from the existing location. The general assessment methodology as described in the FTA's *Transit Noise and Vibration Impact Assessment* (FTA-VA-90-1003-06) was used to determine impacts for this project. The noise impact criteria are founded on well-documented research on community reaction to noise and are based on change in noise exposure using a sliding scale. The amount that rail projects are allowed to change the overall noise environment is reduced with increasing levels of existing noise. The FTA noise impact criteria are applicable to three categories of land use and are summarized in Table 1.

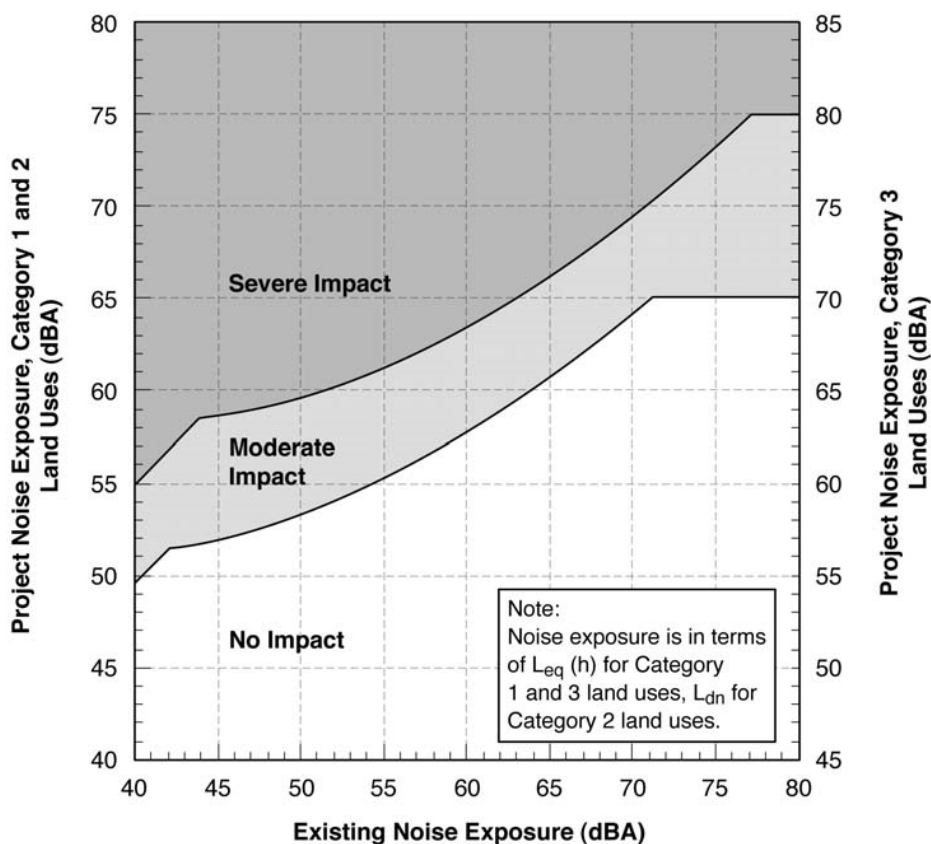
Table 1: Land Use Categories and Metrics for Transit Noise Impact Criteria		
Land Use Category	Noise Metric (dBA)	Description of Land Use Category
1	Outdoor $L_{eq}(h)^*$	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use. Also included are recording studios and concert halls.
2	Outdoor L_{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor $L_{eq}(h)^*$	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments and museums can also be considered to be in this category. Certain historical sites, parks, campgrounds and recreational facilities are also included.

L_{dn} is used to characterize noise exposure for areas where people normally sleep, such as residential areas and hotels (Category 2). The maximum 1-hour L_{eq} during the period that the facility is in use is used for other noise sensitive land uses such as National Historic Landmarks with significant outdoor use (Category 1) or schools (Category 3). There are two levels of impact included in the FTA criteria, as shown in Figure 1. The interpretation of these two levels of impact is summarized below:

- **Severe:** Severe noise impacts are considered "significant" as this term is used in the National Environmental Policy Act (NEPA) and implementing regulations. Noise mitigation will normally be specified for severe impact areas unless there is no practical method of mitigating the noise.

- **Moderate Impact:** In this range, other project-specific factors must be considered to determine the magnitude of the impact and the need for mitigation. These other factors can include the predicted increase over existing noise levels, the types and number of noise-sensitive land uses affected, existing outdoor-indoor sound insulation, and the cost-effectiveness of mitigating noise to more acceptable levels.

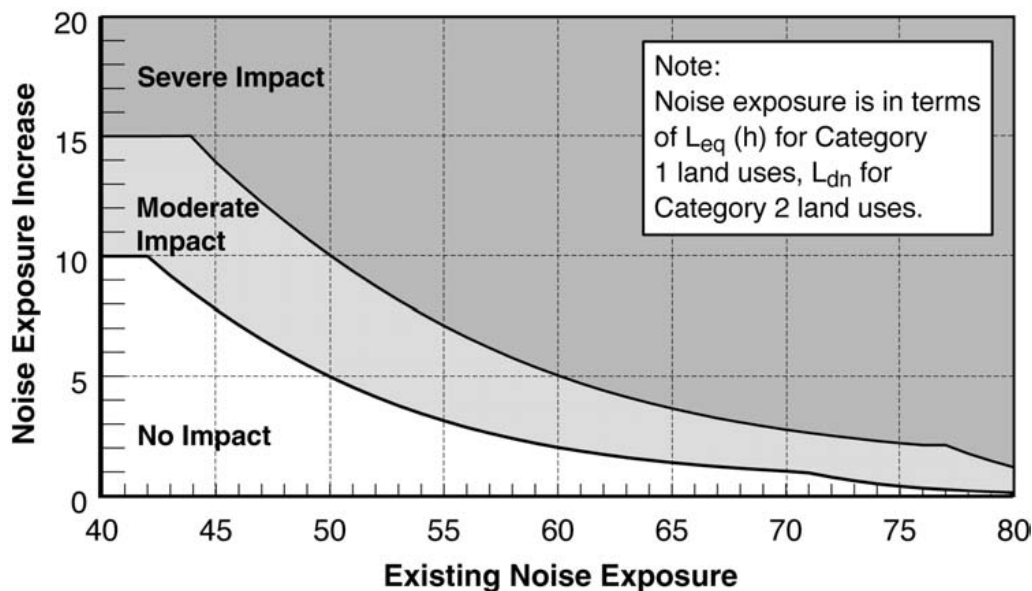
Figure 1: Noise Impact Criteria for Transit Projects



Source: FTA-VA-90-1003-06.

Although the curves in Figure 1 are defined in terms of the project noise exposure and the existing noise exposure, it is important to emphasize that the increase in the cumulative noise – when the project noise is added to existing noise – is the basis for the criteria. Figure 2 shows the noise impact criteria for Category 1 and 2 land uses in terms of cumulative noise exposure increase.

Figure 2: Increase in Cumulative Noise Levels Allowed by Criteria



Source: FTA-VA-90-1003-06.

Figure 2 shows that the criterion for impact allows a noise exposure increase of 10 dBA if the existing noise exposure is 42 dBA or less, but only a 1 dBA increase when the existing noise exposure is 70 dBA. As the existing level of ambient noise increases, the allowable level of project noise increases, but the total allowable increase in community noise exposure is reduced. As a result, project noise exposure levels that are less than the existing noise exposure can still cause an impact.

4.0 Existing Conditions

Existing noise conditions are based on the FTA manual's Table 5-7 "Estimating Existing Noise Exposure for General Assessment." Based on the distance between the existing rail line and the nearest receptor (approximately 80 feet to the nearest track), the existing noise level was estimated to be 65 dBA. The land use within the screening distance of the proposed station consists of residences, which are Category 2 and use the Ldn metric for impacts.

5.0 No Build Operations

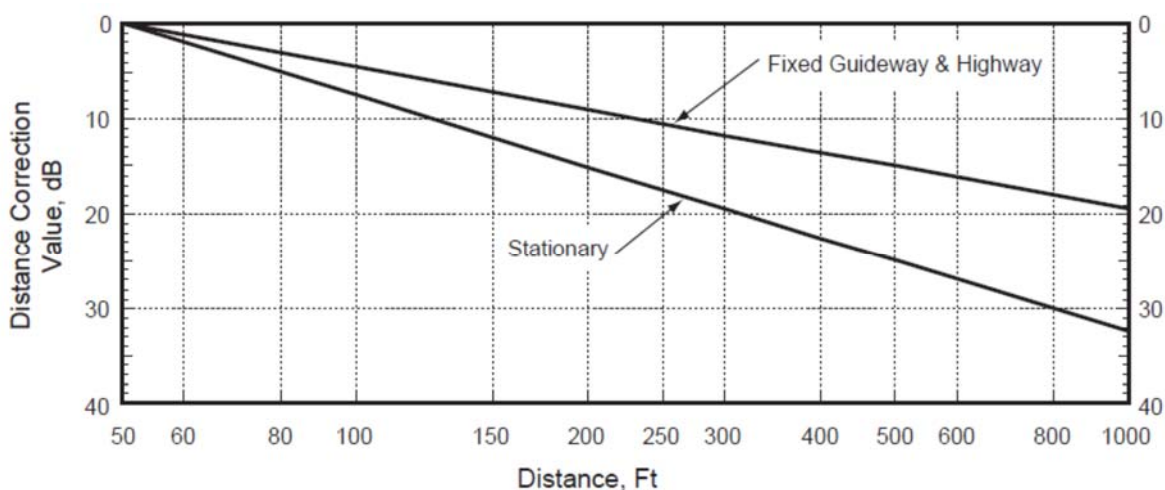
The No Build Alternative involves taking no action, and allowing the existing Downtown Train Station to remain in place in its present condition. Implementation of the No Build Alternative would fail to meet the project purpose and need. As such, the No Build Alternative is not preferred.

Since noise impact is based on the existing noise environment, the no-build alternative would not alter the existing noise environment and therefore not create any impact.

6.0 Rail Operation Noise

Train noise impacts were evaluated using the Exposure vs Distance curve (Figure 3) for stationary sources in order to determine noise contours showing moderate and severe impacts. Depending upon the land use, this increase was measured in terms of either one-hour equivalent sound level ($L_{eq}(h)$) or the day-night sound level L_{dn} . The Project noise exposure was calculated based on the operating characteristics listed in Table 2.

Figure 3: Curves for Estimating Exposure vs. Distance in General Noise Assessment



Source: FTA-VA-90-1003-06.

Table 2: Projected Train Operating Characteristics	
Total Number of Daily Trains	21
Number of Trains – Daytime Operations (7:00am-10:00 pm)	16
Number of Peak Hour Trains	1.07
Idling Duration (Seconds)	60

Source: Michael Baker International and PennDOT Bureau of Rail Freight

In addition to the operating assumptions listed herein, it was also assumed that there would be no track modifications and no horn blowing associated with the proposed station location. Based on these assumptions, noise impact exposure contours were developed for the different land use categories. These distances were then used to tabulate any rail noise impacts that would occur as a result of the proposed Project. Table 3 provides detailed information used in the development of the noise impact exposures contour. Based on the projected noise levels as shown in Table 3, the moderate noise impact exposure contour extends out approximately 37 feet from the station (see Attachment B). Since there are no noise sensitive receptors within this contour, there are no impacts.

Table 3: Noise Level Impact Assessment		
	Daytime Peak Hour	Nighttime Peak Hour
Rail Transit Idling SEL	106	106
Peak Hour Operations (Trains/Hour)	1.07	0.6
Idling Time (Seconds)	60	60
Project Noise (L_{eq}) at 50 Feet	53	51
L_{dn}^* at 50 Feet	58	
Background Noise Level (L_{dn} (dBA))	65	
Moderate Impact (dBA)	61	
Severe Impact (dBA)	66	
Distance to Moderate Impact (Feet)	37	

*Based on Equation in Table 6-8: Computation of L_{eq} and L_{dn} at 50 feet: Stationary Sources (FTA-VA-90-1003-06). Logarithmically adds daytime and nighttime noise levels. Nighttime includes a 10dBA penalty.

7.0 Conclusion

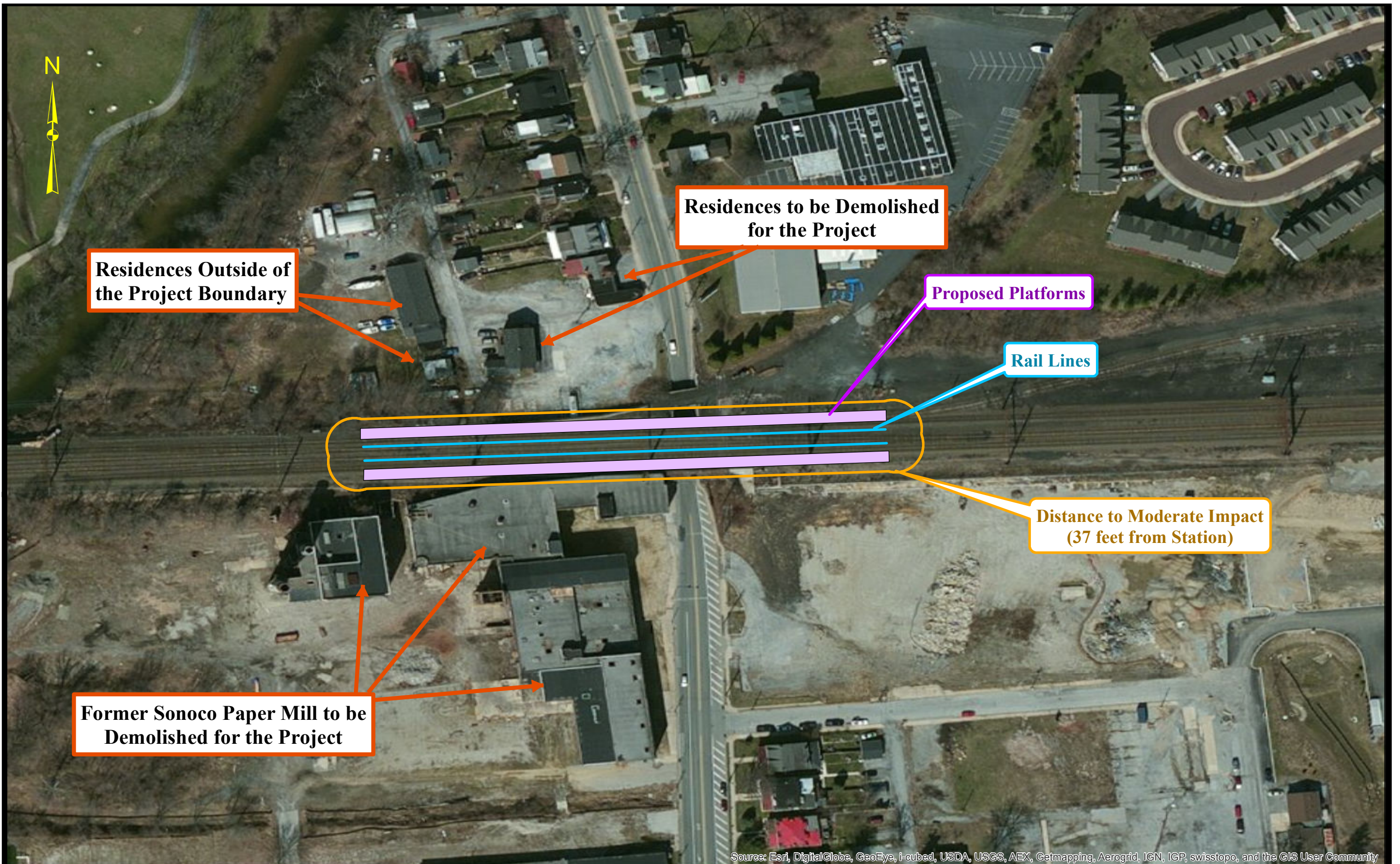
Based on the operating characteristics in Table 2, and equations and methodology set forth in the FTA manual, the proposed station would result in moderate noise impacts within approximately 37 feet from the station (see Attachment B). Since there are no noise sensitive receptors within this distance, there are no impacts.

Attachment A

Location Map

Attachment B

Noise Analysis Map



Downingtown Train Station Relocation Project
Noise Analysis
Downingtown Borough, Chester County

Michael Baker
INTERNATIONAL



Appendix I

Programmatic Agreement (FTA, PennDOT,
PASHPO)

PROGRAMMATIC AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION (FTA),
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT)
AND
THE PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE (PASHPO),
REGARDING THE DOWNINGTOWN TRAIN STATION IN THE CITY OF DOWNINGTOWN,
CHESTER COUNTY, PENNSYLVANIA

This Programmatic Agreement ("PA"), is entered into on the 16th day of September, 2016 ("Effective Date"), by and among the Federal Transit Administration ("FTA"), the Pennsylvania Department of Transportation ("PENNDOT") and the Pennsylvania State Historic Preservation Office ("PASHPO") (each a "Party" and collectively the "Parties").

WHEREAS, PENNDOT proposes to construct a new Downingtown Train Station, in order to provide a station which is accessible in accordance with the Americans with Disabilities Act ("ADA") (herein the "Project" or "Undertaking"); and

WHEREAS, FTA plans to provide funding assistance for the Undertaking, thereby making it an undertaking subject to review under Section 106 of the National Historic Preservation Act ("NHPA"), 54 U.S.C. § 306108, and its implementing regulations, 36 CFR Part 800; and

WHEREAS, FTA in consultation with the PASHPO has established the Project Area of Potential Effect ("APE"), as defined at 36 CFR Part 800.16(d), to be centered on the Brandywine Avenue underpass and roughly bounded by West Boot Road to the south, Chester Alley to the north, Brandywine Creek to the west, and Reed street to the east, encompassing the proposed limits of disturbance and a visual buffer surrounding the Undertaking (Attachment A); and

WHEREAS, FTA, pursuant to 36 CFR Part 800.3, has made an effort to seek consulting parties, and has identified the PASHPO and the Chester County Historic Preservation Office as consulting parties for the Project. FTA will continue to involve the public and consulting parties as stipulated under the NHPA, as amended, and its implementing regulations (36 CFR Part 800); and

WHEREAS, FTA has initiated consultation with federally recognized tribes (Tribes and Nations) with ancestral ties to Pennsylvania who may attach religious or cultural significance to historic properties within the APE. FTA initiated consultation with the Shawnee Tribe of Oklahoma, Cayuga Nation, Delaware Nation, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Oneida Indian Nation, Oneida Nation of Wisconsin, Onondaga Nation, Seneca Nation of Indians, Seneca-Cayuga Tribe of Oklahoma, St. Regis Mohawk Tribe, Shawnee Tribe, Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, Tonawanda Seneca Nation, and Tuscarora Nation, though no responses have yet been received; and

WHEREAS, FTA has invited PENNDOT to participate in the consultation and to sign this PA and has invited Southeastern Pennsylvania Transportation Authority (SEPTA) and AMTRAK as users of the station to be concurring parties; and

WHEREAS, FTA has completed preliminary identification of historic properties and provided the survey to the PASHPO for review and comment and wherein the PASHPO requested additional information for review and consideration regarding historic properties; and

WHEREAS, FTA in consultation with PASHPO, has initiated identification for archaeological resources and will complete identification of potential archaeological resources within a Phase I Archaeological Survey Report; and

WHEREAS, FTA has consulted with the PASHPO in accordance with Section 106 of the NHPA, 16 USC Part 470 (NHPA), and its implementing regulations (36 CFR Part 800) to determine that the Project may have an effect on properties eligible for listing in the National Register of Historic Places (National Register); and

WHEREAS, FTA has invited the ACHP to participate in consultation, and the ACHP has declined; and

WHEREAS, grant funding constraints for PENNDOT, FTA has elected to comply with Section 106 of the NHPA, 16 USC Part 470(f) through execution and implementation of a PA pursuant to 36 CFR Part 800.14; and

NOW, THEREFORE, FTA and PASHPO agree that upon FTA's decision to proceed with the Project, FTA shall ensure that the following stipulations are implemented in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

FTA shall ensure that the following stipulations are implemented by PENNDOT:

1. Identification of Above-Ground Historic Properties

A. An architectural survey was completed for the project resulting in the identification of one previously determined National Register-eligible resource (the Pennsylvania Railroad: Philadelphia to Harrisburg) and two newly recommended eligible resources (the Frank P. Miller Paper Company/Downingtown Paper Box Company and the Torbert Dwelling). The PASHPO did not concur with these recommendations and asked via a response letter for additional information to complete its review. Two specific items were requested for clarification. FTA agrees to provide the following information within 180 days of execution of this PA:

- a. Potential Historic District Evaluation of the East Lancaster Avenue Historic District (Key # 001539) through a memorandum and supporting documentation that specifically discusses whether the existing historic district boundary could be expanded to include the area around and including the Frank P. Miller Paper Company. If the information reveals that the current boundary is accurate, then FTA will address through a memorandum and supporting documentation if a historic district could be centered on the Frank P. Miller Paper Company, extending along the Brandywine Avenue.
- b. If the assessment of the potential historic district substantiates that a historic district(s) is not present in this location an/or would not include the Frank P. Miller Paper Company, then FTA will prepare a memorandum and supporting documentation to address the additional information requested as specified in the June 15, 2016 response letter from the PASHPO to FTA (Attachment B).

2. Identification of Archaeological Resources

A. Prior to project construction, PENNDOT shall complete a Phase I archaeological survey in the residential block in the APE located east of Brandywine Avenue, between Logan Avenue and Boot Road. The archaeological survey will be conducted in a manner consistent with the

Secretary of the Interior's Standards and Guidelines for Identification (46 FR 44720-23), also taking into account the National Park Service's publication *The Archaeological Survey: Methods and Uses* (1978: GPO stock #024-016-00091) and the PASHPO/Pennsylvania Historical and Museum Commission's *Guidelines for Archaeological Investigations in Pennsylvania* (May 2016).

- B. Any archaeological resources identified within the APE will be evaluated in accordance with 36 CFR 800.4 (c). PENNDOT will submit a report on the findings of the survey to FTA, the PASHPO, and any consulting Tribes and Nations, and other consulting parties for their review and comment. The PASHPO's concurrence will be requested on the eligibility of any potential archaeological resources. The review period will be thirty (30) days.
- C. PENNDOT shall ensure that any human remains and/or grave-associated artifacts encountered during the archaeological investigations are brought to the immediate attention of FTA, the PASHPO, and any federally recognized Tribes that may attach religious and/or cultural significance to the affected property. Notification will be within 48 hours of the discovery. No activities which might disturb or damage the remains will be conducted until FTA, in consultation with the appropriate parties, has developed a treatment plan that considers the comments of the appropriate parties. All procedures will follow the guidance outlined in the National Park Service publication National Register Bulletin 41: *Guidelines for Evaluating and Registering Cemeteries and Burial Places*, taking into account the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601) and the Pennsylvania Historical and Museum Commission's Policy for the Treatment of Burials and Human Remains (1993).
- D. All records and materials resulting from the archaeological investigations will be curated in accordance with 36 CFR Part 79 and the current curation guidelines developed by the State Museum of Pennsylvania and the Pennsylvania Historical and Museum Commission.
 - a. Artifacts recovered from Commonwealth property and all associated records will be curated at the State Museum of Pennsylvania or their designee.
 - b. When artifacts are recovered from property not owned by the Commonwealth, PENNDOT will explain to the property owner the importance of artifact donation and will request that the owner sign a gift agreement donating the artifacts to the State Museum. If the property owner does not wish to donate the artifacts, PENNDOT will complete the necessary analyses prior to returning the artifacts, and will submit all records to the State Museum.
 - c. Should a federally recognized Tribe or Nation request artifacts, FTA will consider the request in consultation with the State Museum of Pennsylvania.
 - d. PENNDOT will submit archeological collections to the PHMC within three months of acceptance of the final report. PENNDOT will be responsible for the curation fee of three hundred-fifty dollars (\$350) per cubic foot.

3. Determination of Effect

A. Archaeological Resources

- a. If eligible archaeological resources are identified within the APE, PENNDOT will make a reasonable effort to avoid or minimize effects to these resources. If the eligible resources cannot be avoided, PENNDOT will apply the Criteria of Adverse Effect in accordance with 36 CFR 800.5. If the project will have an adverse effect on archaeological sites, and if these resources are eligible chiefly under National Register Criterion D (36 CFR § 63)

for the significant information in prehistory or history they are likely to yield through data recovery, PENNDOT will ensure that a data recovery plan or a plan for alternative mitigation is developed in consultation with the PASHPO. Any data recovery plan will be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and also will take into account the Advisory Council on Historic Preservation's (ACHP) publication Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites. The data recovery or alternative mitigation plan will be submitted to FTA, the PASHPO, and any consulting Tribes for their review and comment. The review period will be 30 days. If archaeological resources are identified which are eligible under Criteria other than or in addition to Criterion D, PENNDOT shall comply with 36 CFR § 800.6.

- b. If an archaeological site eligible for the National Register of Historic Places is identified, and if it will be adversely impacted by the Undertaking, PENNDOT will conduct Data Recovery excavation or an alternative mitigation according to the approved mitigation plan. At the conclusion of data recovery excavations or alternative mitigation, PENNDOT will prepare a report(s) on the results of the data recovery or alternative mitigation. The report will be provided to FTA, the PASHPO, and consulting Tribes for review and comment. Data recovery report(s) will meet professional standards set forth by the Department of the Interior's Format Standards for Final Reports of Data Recovery Program (42 FR 5377-79) and will be prepared consistent with the PASHPO's Guidelines for Archaeological Investigations in Pennsylvania (May 2016). A draft report will be provided to FTA, PASHPO, consulting Tribes and Nations and other consulting parties within a year of the completion of archaeological fieldwork. The review period will be 30 days. Any comments provided by FTA, PASHPO, Tribes or Nations, or other consulting parties will be of the final report. All final reports will be completed and submitted within 6 months of the close of the comment period.
- c. If archaeological data recovery is necessary, the mitigation plan will include preparation of information for the general public. The specific materials to be produced will be determined individually for each site for which data recovery is necessary and may include but not be limited to pamphlets, brochures, artifact displays, exhibits, or booklets on the results of the excavations. The public information materials should explain the purpose of the project and the significance of the excavation of eligible sites. PENNDOT shall consult with FTA, the PASHPO and any consulting Tribes on the proposed public information materials and will provide a draft of any public information materials to FTA, the PASHPO and any consulting Tribes for their review and comment prior to the finalization of the materials. The review period will be 30 days.

B. Above-Ground Historic Properties Archaeological Resources:

- a. FTA, in consultation with the PASHPO and input from the Chester County Historic Preservation Network shall evaluate the effects to those properties identified in Stipulation 1 above, according to 36 CFR Part 800.5.
- b. If FTA and PASHPO agree that a historic property will be adversely affected, then FTA will develop suitable mitigation in consultation with the PASHPO and Chester County Historic Preservation Network to be outlined in a mitigation plan to be implemented by FTA. The mitigation plan will stipulate mitigation and timeframes for completion. If, after consultation, FTA and PASHPO cannot agree on appropriate terms for a mitigation plan, FTA will refer the matter to the ACHP pursuant to Stipulation D.2 of this PA.

- c. If FTA and PA SHPO disagree regarding the effects to historic property(s), FTA will request the ACHP's opinion. The ACHP will advise FTA of its opinion regarding the effects to the property. FTA will take into account the ACHP's opinion before making a final determination. If an adverse effect is found by FTA, mitigation will be developed and implemented in accordance with Stipulation 3.B.b.

Administrative Conditions

A. Personnel Qualifications.

PENNDOT shall ensure that all historic preservation and documentation work is carried out by or under the direct supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualification Standards for Architectural Historians and Archaeologists (48 FR 44738-9).

B. Post Review Discoveries.

If any unanticipated discoveries of historic properties or archaeological sites are encountered during the implementation of this Undertaking, FTA shall comply with 36 CFR 800.6(c)(6) by consulting with all other signatories to this PA, and if applicable, with Federally-recognized tribal organizations that attach religious and/or cultural significance to the affected properties. FTA, with the concurrence of all signatories to this PA, shall also develop and implement appropriate actions, if applicable, as required by the relevant Federally-recognized tribal organization.

C. Amendments to this PA

If any Party to this PA desires to make a change hereto, it may do so by proposing the change (or changes) to the other Parties, including to FTA as the lead Federal agency. FTA shall consider such change (or changes) and propose to all Parties an amendment to this PA that accurately reflects the proposed change (or changes). If all Parties agree with the proposed change (or changes) as documented in the amendment, the Parties shall all execute the amendment to this PA. If a Party does not agree with the proposed change (or changes), the disagreeing Party shall make its objection in accordance with Section D.1 below. The objection shall be resolved in accordance with Section D below.

D. Dispute Resolution

1. Should any Party to this PA have an objection ("Objecting Party") regarding any actions to be carried out or changes proposed pursuant to this PA, the Objecting Party shall notify FTA in writing of each such dispute or objection (herein collectively "Dispute"). FTA shall be responsible for consulting with the Objecting Party, and if appropriate with the other Parties, to understand, assess and resolve the Dispute.
2. If after initiating such consultation, FTA determines that the Dispute cannot be resolved through consultation, FTA shall (i) terminate the consultation; (ii) forward all documentation relevant to the Dispute, including information on its preliminary opinion regarding the Dispute, to the ACHP and request, in accordance with 36 CFR 800.7(a), that the ACHP comment on the Dispute; and (iii) notify all Parties of the request to the ACHP.
3. The ACHP shall then act in accordance with 36 CFR 800.7(c) and, within forty- five (45) days after receipt of all pertinent documentation related to the Dispute, the ACHP shall provide

the opportunity for all Parties, and at the discretion of the ACHP, the public, to provide their views. Then the ACHP shall exercise one of the following options:

- a. Advise FTA that the ACHP concurs with FTA's preliminary opinion regarding the Dispute; FTA shall then formulate its final decision on the objection and notify the Objecting Party and the other Parties of FTA's final decision; or
 - b. Provide FTA, and the other Parties, as appropriate, with comments and recommendations that may differ from FTA's preliminary opinion.
4. FTA shall take into account the ACHP's comments, and shall reach its final decision on the Dispute and formulate the resolution to the Dispute. FTA shall then document its decision in accordance with 36 CFR 800.7(c)(4).
5. Should the ACHP not exercise one of the above options within forty-five (45) days after receipt of all pertinent documentation, FTA may assume ACHP's concurrence in its proposed response to the Dispute.
6. FTA shall act in accordance with Section D only with regard to the resolution of a Dispute that arises hereunder. FTA's responsibilities, under this PA, to carry out actions as stated herein, are not Disputes subject to this Section D and remain unchanged.

E. Monitoring and Reporting

Upon six months from the execution of this PA, and every six months until the PA expires or is terminated, pursuant to Section F below, FTA (with consultation from PENNDOT) shall provide to all other Parties a summary report detailing the work carried out pursuant to the terms of this PA. Such report shall include any scheduling changes that occurred and/or are proposed, any problems encountered, and any Disputes that have arisen with regard to efforts to carry out the terms of this PA.

F. Duration

If the terms of this PA have not been implemented by two (2) years from the date of this signed PA, this PA shall be considered null and void. In such an event, FTA shall notify PENNDOT and the PASHPO, and if it chooses to continue with the project, it shall re-initiate review of the project.

G. Termination

1. If any Party determines that it cannot carry out its responsibilities under this PA as stated, it shall raise its concern or objection as a Dispute in accordance with Section D above. Potential resolutions of such a Dispute are that the PA is terminated or that an amendment to this PA is appropriate, which shall be effectuated in accordance with Section C above.
2. If the stipulations set forth in Sections 1-4 of this PA have not been completely implemented within five years after the date of the execution of this PA, then upon the expiration of such five-year period, this PA shall terminate. Prior to such time, FTA may consult with the other signatories to reconsider the terms of the PA and amend it in accordance with Section C above. Upon any termination of this PA, PENNDOT shall be prohibited from continuing with the Accessibility Project or Undertaking until they comply with their obligations hereunder.

H. Counterparts

This PA may be executed in any number of counterparts, each of which shall be deemed to be an original as against any Party whose signature appears thereon, and all of which shall together constitute one and the same PA. This PA will become binding when one or more counterparts hereof, individually or taken together, bears the signature of all Parties hereto. Any facsimile, photograph or photocopy of this PA with all signatures reproduced shall be considered, for all purposes, as if it were an executed original counterpart of this PA.

I. Interpretation

This PA shall not be construed for or against any Party by reason of the authorship or alleged authorship of any provision. The section headings contained in this PA are for ease of reference only and shall not be used in constructing or interpreting this PA.


J. Integration

This PA forms the entire and complete statement of the arrangements and obligations of all Parties as to subject matter hereof. The terms of this PA may not be altered or amended except by a written document that all Parties sign.

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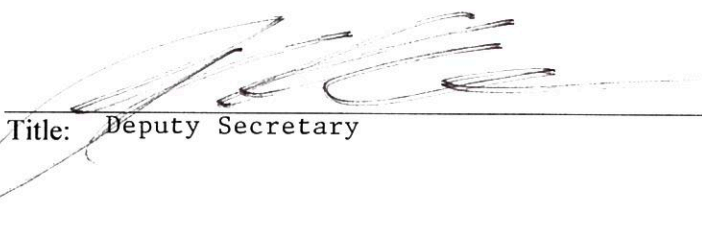
SIGNATORIES:

FEDERAL TRANSIT ADMINISTRATION (FTA)

By:  Date: 9-7-16
Title: Terry Garcia Crews – Regional Administrator

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT)

By:

A large, stylized handwritten signature in black ink, consisting of several sweeping, connected strokes.

Title: Deputy Secretary

Date:

9/1/16

PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE (PASHPO)

By: Andrea MacDonald Date: 9/2/2016
Title: Deputy State Historic Preservation Officer

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION'S OFFICE OF CHIEF COUNSEL

By: Michael J. Heine Date: 9/14/2016
for Chief Counsel
AOK
9/14/16

PENNSYLVANIA OFFICE OF GENERAL COUNSEL

By:


Deputy General Counsel

Date:



PENNSYLVANIA OFFICE OF ATTORNEY GENERAL

By: 
Deputy Attorney General

Date: 9/16/16

ATTACHMENT A

Project Location/APE and Resource Location Map DOWNINGTOWN, CHESTER COUNTY, PENNSYLVANIA

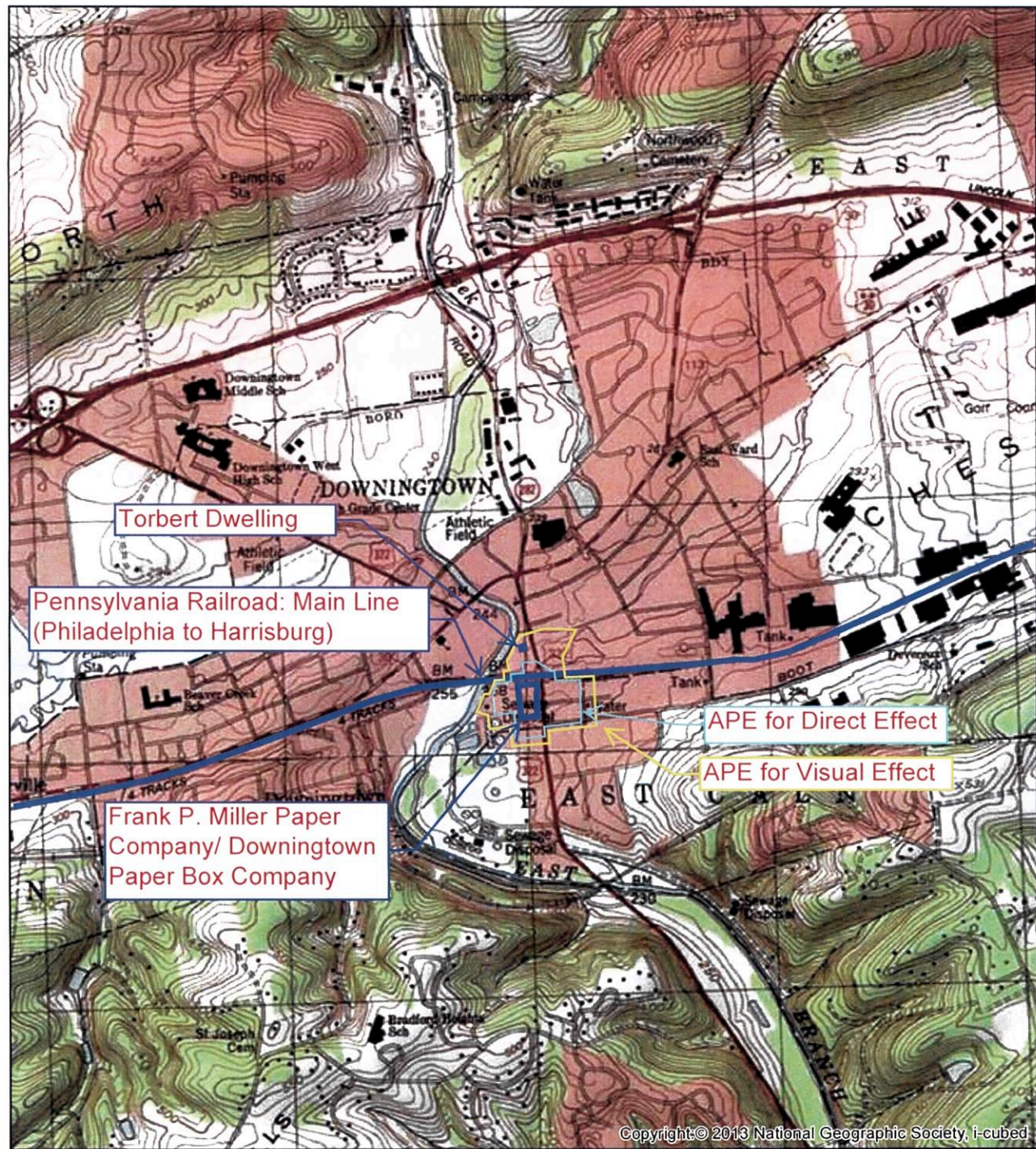


Figure 1: Project Location/APE and Resource Location Map

Key: — National Register Boundary



Downingtown Train Station
 Project

Source: Downingtown, PA Quad.
 USGS 1984.



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ATTACHMENT B



Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

June 15, 2016

Mr. Timothy Lidiak
Community Planner, FTA
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

RE: ER 2016-1407-029-A; Proposed Downingtown Station Relocation Project; Downingtown, Chester County; Historic Resource Survey Forms and Archaeological Analysis

Dear Mr. Lidiak,

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Archaeological Resources

We concur with the recommendations concerning Phase I archaeological testing. Please provide a copy of the Phase I report once it is available.

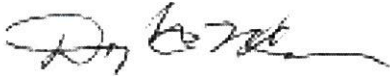
Above Ground Resources

We are requesting additional information to complete our review. Please provide information regarding the potential of a historic district in this location. Questions to consider would include if the existing East Lancaster Avenue Historic District (Key No.001539) boundary is accurate or could it be expanded to include Brandywine Avenue? If no, could the area around the Frank P. Miller Paper Company, extending along Brandywine Avenue be a separate, distinct historic district?

If the assessment for a potential historic district substantiates that a historic district(s) is not present in this location and/or would not include the Frank P. Miller Paper Company, please address the following with regards to the Frank P. Miller Paper Company. The integrity evaluation for the property included in the HRSF notes that the "ca.1870-1900 houses, which border the site to the north and east, are largely intact;" however, these were not included in the HRSF for the company property itself. We suggest inclusion of these within the same form, as they appear to be historically related. Is what remains of the Frank P. Miller Company property today sufficient to convey its potential significance? When was Plant # 2 built? How did it relate to Plant # 1? In addition, with the exception of the historic aerials, the historic mapping included in the HRSF for the paper company is clipped so please provide an overall map of the entire property as it existed historically, including the Sanborn Fire Insurance Company maps, so that we can better understand the evolution and physical history of the property.

If you need further information regarding archaeological resources, please contact Mark Shaffer at mshaffer@pa.gov or (717) 783-9900. If you need further information concerning above ground resources, please contact Emma Diehl at emdiehl@pa.gov or (717) 787-9121.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug McLearn", with a long horizontal flourish extending to the right.

Douglas C. McLearn, Chief
Division of Archaeology and Protection



Appendix J

Section 4(f) Documentation



Downingtown Train Station Relocation

Section 4(f) Exception - Johnsontown Park and Brandywine Trail

Agreement E02871 - Environmental
Work Order #2 - Downingtown Station NEPA
Task #1.10 - Section 4(f) Exception - Park
Deliverable #1.10 - Section 4(f) Exception Correspondence Package - Park

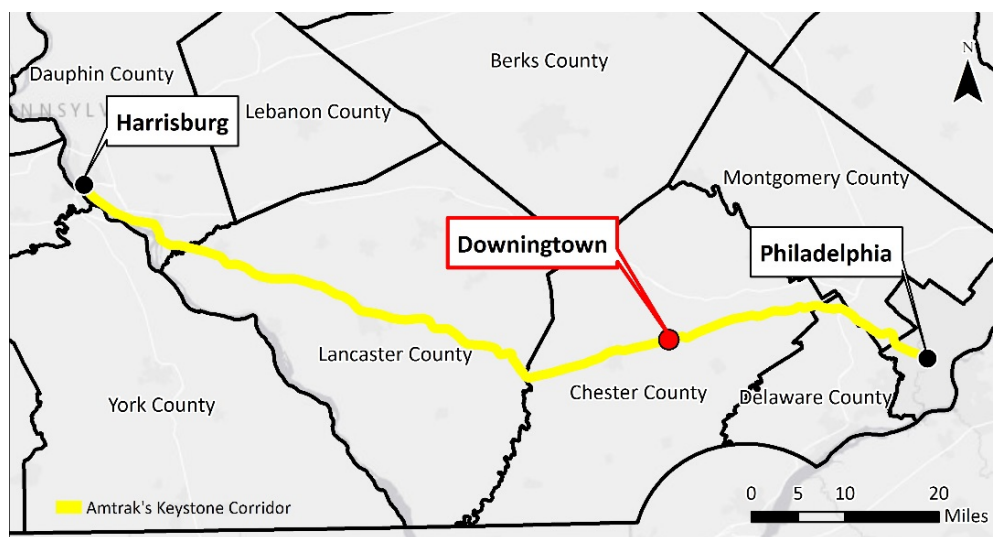
Revised September 16, 2016



Introduction

As part of the effort to improve the Keystone Corridor, the Pennsylvania Department of Transportation's (PennDOT) Bureau of Public Transportation (BPT), have planned the relocation of the Downingtown Train Station. The Downingtown Train Station is located on Amtrak's Keystone Corridor between the Coatesville and Exton stations. This is approximately 32 miles west of Philadelphia, in the Borough of Downingtown, Chester County, Pennsylvania (see Figure 1).

Figure 1 – Project Location Map



Because Downingtown Borough officials requested the inclusion of a pedestrian bridge in the proposed Downingtown Train Station Relocation Project scope, the project will result in temporary impacts to a portion of the Borough-owned Johnsontown Park and Brandywine Trail. The purpose of this memorandum is to examine the applicability of Section 4(f) protections and an exception for Section 4(f) approval under 23 CFR 774.13.

Project Description

As shown in Attachment 1, the project area is at the intersection of the rail line and Brandywine Avenue, with a vast majority of the project footprint located in the southwestern and southeastern quadrants. This location is less than half a mile east of the existing location.

The proposed Train Station will include 500' long high-level platforms, elevator/stair towers, a railroad bridge, retaining walls, parking areas, and a pedestrian bridge (labeled as Bridge 1 on the plans). The conceptual plans are provided in Attachment 2.

Currently, there is limited east/west pedestrian and bicycle access over East Branch Brandywine Creek between the existing Station and downtown Downingtown. As a result of the proposed project location east of the East Branch Brandywine Creek and the lack of overall east/west pedestrian and bicycle access, Downingtown Borough requested that a pedestrian bridge be included in the new Station design. The proposed pedestrian bridge will provide the needed east/west pedestrian and bicycle access over East Branch Brandywine Creek to the new Station location as well as downtown Downingtown. This bridge will span from the Brandywine Trail in Johnsontown Park to a shared use bike path in the southwest Train Station parking lot, which in turn will provide a connection to the downtown area and a future mixed use development proposed by others (Attachment 2). The proposed pedestrian bridge, which may be prefabricated, may be 14 feet wide with a concrete deck and a handrail.

Public Park Section 4(f) Resources

The only public park Section 4(f) resources within or adjacent to the project area are the Johnsontown Park and the Brandywine Trail. See Attachment 3 for a map and photographs. This 13.9 acre park includes soccer fields, basketball courts, picnic pavilions, playground facilities, and the southern terminus of the Brandywine Trail. The Brandywine Trail is a paved, Borough-owned trail that runs through Johnsontown Park and continues north along East Branch Brandywine Creek to connect with the Kerr Park Trail (see Attachment 4).

Table 1 – Activities, Features, and Attributes of Johnsontown Park and Brandywine Trail

Criteria	Notes
Public Ownership	Both 4(f) properties are owned by the Borough of Downingtown.
Major Purpose	The major purpose of the facilities is recreation with trails, athletic fields, basketball courts, picnic areas, and playgrounds.
Open to the Public	Both facilities are open to the public.
Significance	The official with jurisdiction (Borough of Downingtown) has agreed that the park and trail serve a major recreational role for the Borough.

Temporary Use Exception

There will be temporary effects on Johnsontown Park and the Brandywine Trail as a result of construction activities for the pedestrian bridge. Installation of the pre-fabricated pedestrian bridge will take less than two weeks. Construction equipment placed on the Johnsontown Park property to install the pedestrian bridge will include a backhoe, dump truck, cement truck, and crane. It is anticipated that a small portion of the park and trail will be closed temporarily to

pedestrians during construction, but access to the park will remain. Because of the existing configuration of the trail at this location (see Attachment 1), it is anticipated that the connections north, south, and west of the construction area will be maintained, resulting in no significant inconvenience for pedestrians.

Once installed, the pedestrian bridge is anticipated to occupy less than 0.1 acre of the Borough-owned property. As shown in Attachment 3, the land at the bridge site is natural vegetation and landscaped grass, and no improved recreational facilities like play grounds or pavilions will be impacted. This bridge will span from the Brandywine Trail in Johnsontown Park to a shared use bike path in the southwest Train Station parking lot, which in turn will provide a connection to the downtown area and a future mixed use development proposed by others (see Attachment 2). This will be complimentary to the overall system of bike and pedestrian facilities and was actually added to the Train Station design at the Borough's request.

The temporary occupancy of the Park would meet the criteria under 23 CFR 774.13(d) as the impacts to the park would be so minimal as to not constitute a use.

(d) Temporary occupancies of land that are so minimal as to not constitute a [use](#) within the meaning of Section 4(f). The following conditions must be satisfied:

- (1) Duration must be temporary, *i.e.*, less than the time needed for construction of the project, and there should be no change in ownership of the land;
- (2) Scope of the work must be minor, *i.e.*, both the nature and the magnitude of the changes to the Section 4(f) property are minimal;
- (3) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
- (4) The land being [used](#) must be fully restored, *i.e.*, the property must be returned to a condition which is at least as good as that which existed prior to the project; and
- (5) There must be documented agreement of the [official\(s\) with jurisdiction](#) over the Section 4(f) resource regarding the above conditions.

On January 20, 2016, the Downingtown Borough Council passed a motion 5-0, in favor of providing the signed concurrence included as Attachment 5 for an exception under Section 4(f). The Borough concurred that the Johnsontown Park and the Brandywine Trail serve a major recreational role for Downingtown Borough residents and also that the proposed use of the Section 4(f) properties (Johnsontown Park and the Brandywine Trail) is solely for the purpose of enhancing the activity (recreation) that qualifies them for protection under Section 4(f).

Conclusion

The proposed relocation of the Downingtown Train Station includes a pedestrian bridge connecting the new Station shared use bike path to the existing Brandywine Trail in Johnsontown Park, and the existing trail and park qualify as Section 4(f) resources. By improving connectivity through the area, the proposed pedestrian bridge would increase utilization of the Johnsontown Park and Brandywine Trail. The pedestrian bridge is not anticipated to adversely affect the operation and function of these recreational facilities and the temporary impacts would meet the criteria under 23 CFR 774.13(d). Therefore, FTA has determined, with the Borough's concurrence, that the Johnsontown Park and Brandywine Trail would meet the criteria for a Temporary Occupancy and there would be no permanent use of the park or trail from construction activities.

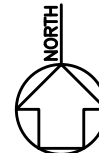
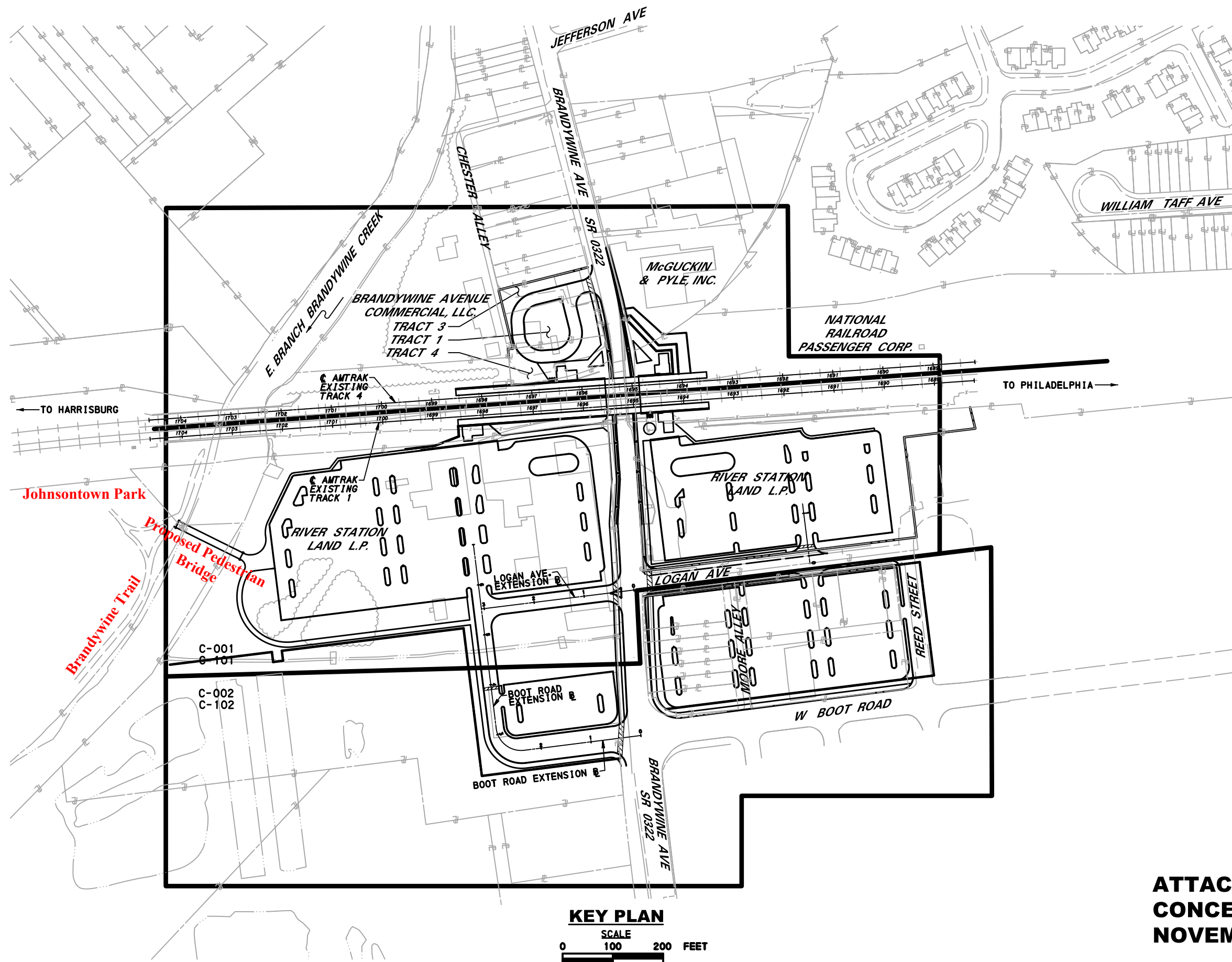
Attachment 1

Aerial Map of Approximate Work Area

Attachment 2

Conceptual Plans

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**ATTACHMENT A
CONCEPTUAL PLAN
NOVEMBER, 2014**

No.	Revisions	Date	By



Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

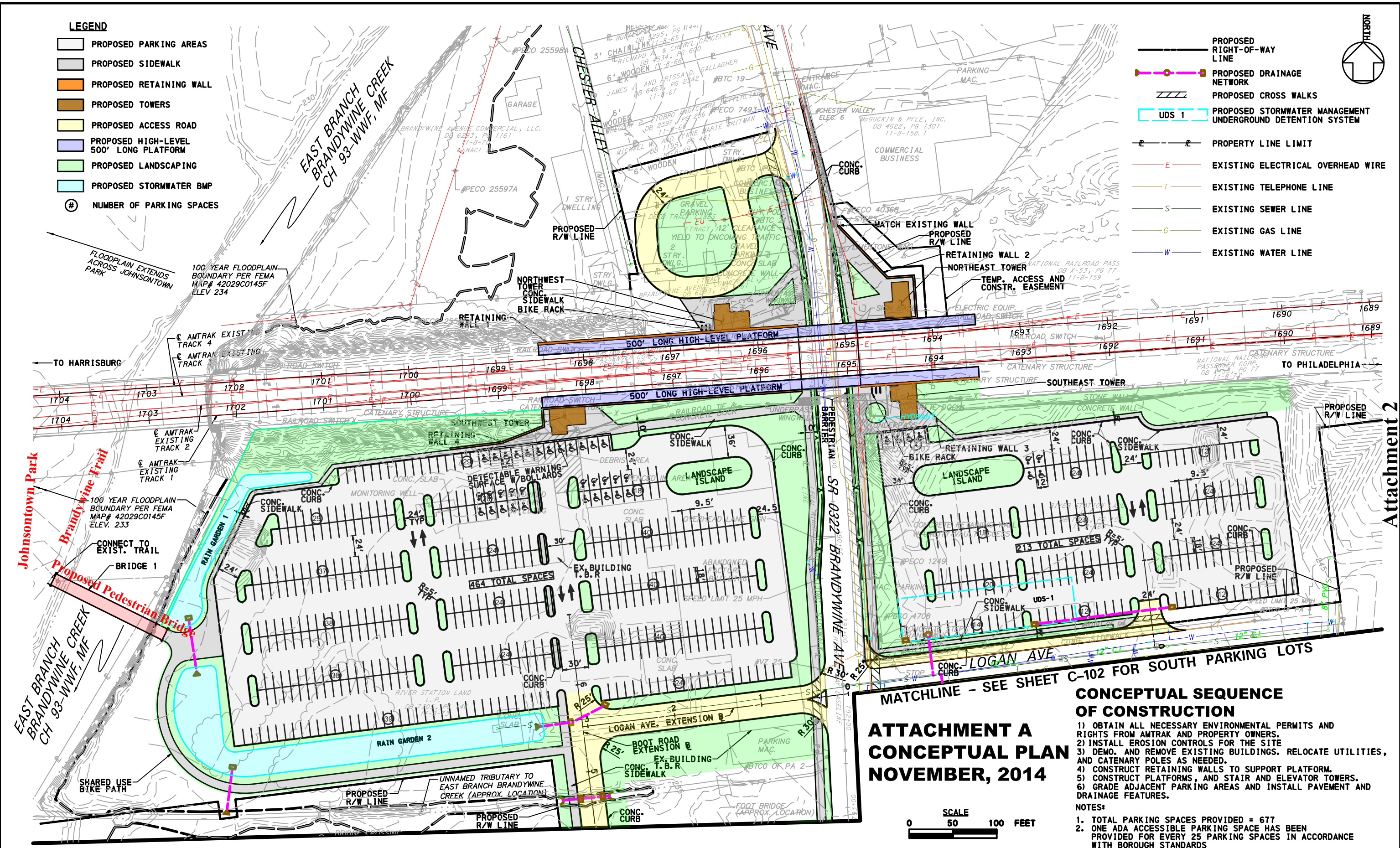
Approved	Date

CONCEPTUAL SUBMISSION



DOWNINGTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNINGTOWN STATION RELOCATION				Job No:	
KEY PLAN				File Name:	
Designed JLH Draw EAR Checked CMV Date 11/10/14				Sheet No.:	6 OF 82
				at	G-003

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No.	Revisions	Date	By



Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION

Baker

DOWNTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNTOWN STATION RELOCATION SITE PLAN - NORTH PARKING LOTS				Job No.	
Designed JLH				File Name	
Drawn EAR				Sheet No.	
Checked CMV					
Date 11/10/14					

C-101

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LEGEND

- PROPOSED PARKING AREAS
- PROPOSED SIDEWALK
- PROPOSED ACCESS ROAD
- PROPOSED LANDSCAPING

NUMBER OF PARKING SPACES

PROPOSED
RIGHT-OF-WAY
LINE

PROPOSED DRAINAGE
NETWORK

PROPOSED CROSS WALKS

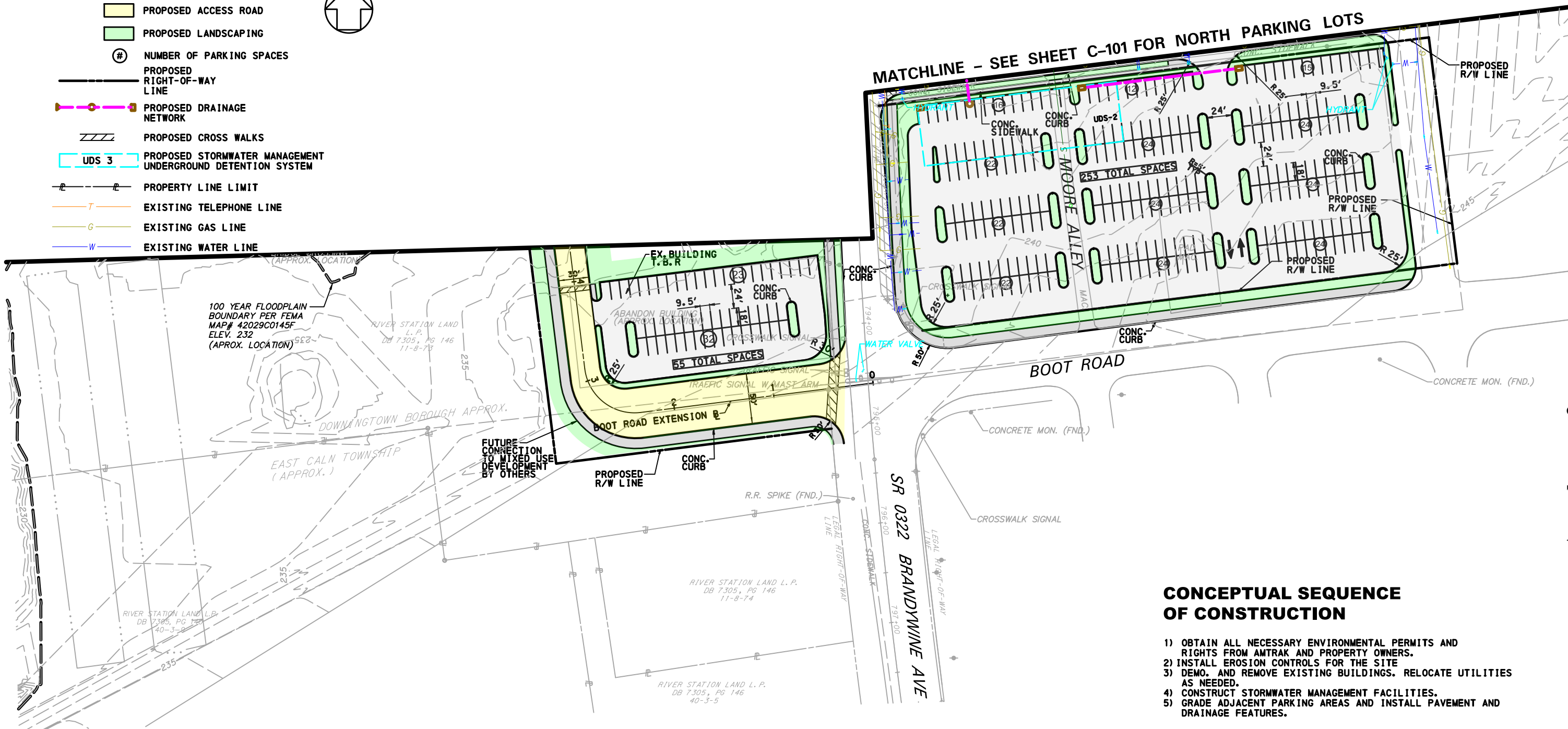
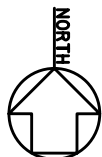
UDS 3 PROPOSED STORMWATER MANAGEMENT
UNDERGROUND DETENTION SYSTEM

PROPERTY LINE LIMIT

EXISTING TELEPHONE LINE

EXISTING GAS LINE

EXISTING WATER LINE



CONCEPTUAL SEQUENCE OF CONSTRUCTION

- 1) OBTAIN ALL NECESSARY ENVIRONMENTAL PERMITS AND RIGHTS FROM AMTRAK AND PROPERTY OWNERS.
- 2) INSTALL EROSION CONTROLS FOR THE SITE
- 3) DEMO. AND REMOVE EXISTING BUILDINGS. RELOCATE UTILITIES AS NEEDED.
- 4) CONSTRUCT STORMWATER MANAGEMENT FACILITIES.
- 5) GRADE ADJACENT PARKING AREAS AND INSTALL PAVEMENT AND DRAINAGE FEATURES.

NOTES:

1. TOTAL PARKING SPACES PROVIDED = 310
2. ONE ADA ACCESSIBLE PARKING SPACE HAS BEEN PROVIDED FOR EVERY 25 PARKING SPACES IN ACCORDANCE WITH BOROUGH STANDARDS

ATTACHMENT A CONCEPTUAL PLAN NOVEMBER, 2014

SCALE
0 50 100 FEET

No.	Revisions	Date	By



Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION

Baker

DOWNTOWNTOWN, PENNSYLVANIA
PENNDOT BPT KEYSTONE CORRIDOR
DOWNTOWNTOWN STATION RELOCATION
SITE PLAN - SOUTH PARKING LOTS
Designed JLH Draw EAR Checked CMV Date 11/10/14

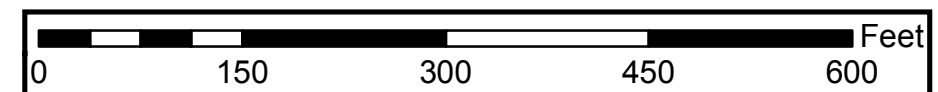
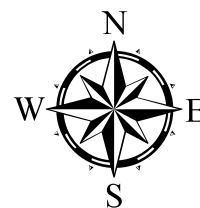
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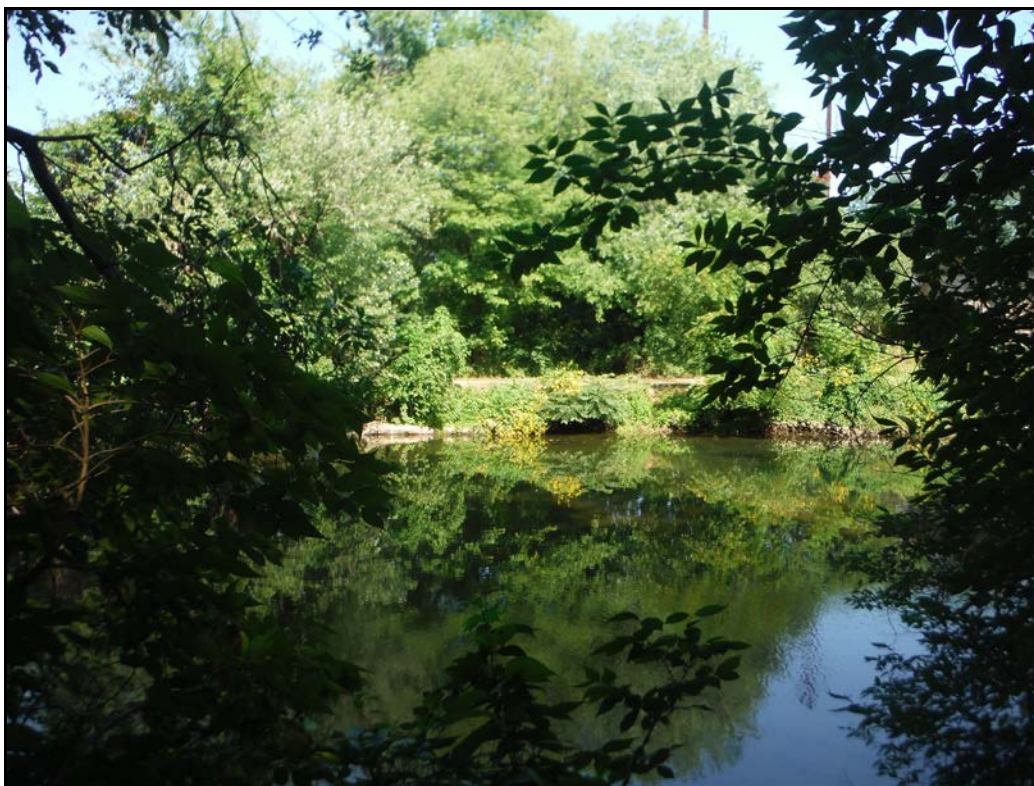
Attachment 3

Johnsontown Park Aerial Map and Photographs



Downingtown Train Station Relocation Project
Section 4(f): Johnsonstown Park & Brandywine Trail
Photograph Location Map
Downingtown Borough, Chester County, PA





Photograph 1: View of East Branch Brandywine Creek at area of proposed pedestrian bridge, facing northwest.



Photograph 2: View of East Branch Brandywine Creek at area of proposed pedestrian bridge, facing southeast.



Photograph 3: View of proposed pedestrian bridge entrance from Brandywine Trail, facing east.



Photograph 4: View of Brandywine Trail leading under railroad bridge, facing north.



Photograph 5: View of Brandywine Trail within Johnsontown Park, facing south.



Photograph 6: View of soccer fields within Johnsontown Park, facing west.



Photograph 7: View of Brandywine Trail entrance within Johnsontown Park, facing south.



Photograph 8: View of Dave Hatt Pavilion within Johnsontown Park, facing northeast.



Photograph 9: View of soccer fields within Johnsontown Park, facing east.

Attachment 4

Trail Map

Legend

Borough Parks & Open Space

- 1 Kerr Park
- 2 Kardon Park
- 3 Marinelli Park
- 4 Johnsonstown Park
- 5 Sunnybrook Park
- 6 Tabas Park
- 7 Pocket Parks

Borough Trails

- Brandywine Trail
- Kerr Park Trail
- Lions Trail

County Trails

- R.G. Struble Trail

Private Athletic Association Properties

- 8 Downingtown Little League Park
- 9 Downingtown Spirit Soccer Club

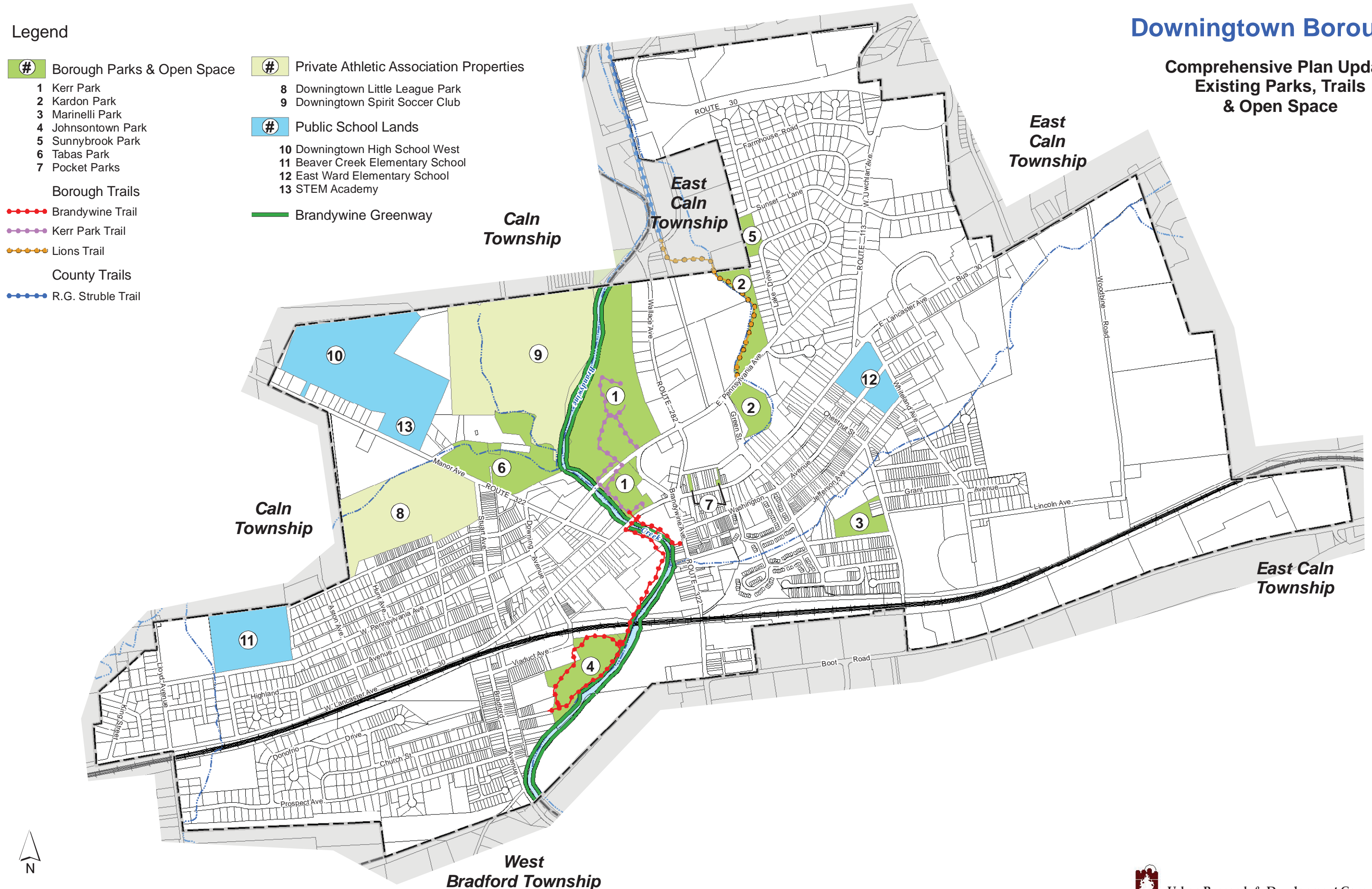
Public School Lands

- 10 Downingtown High School West
- 11 Beaver Creek Elementary School
- 12 East Ward Elementary School
- 13 STEM Academy

Brandywine Greenway

Downingtown Borough

Comprehensive Plan Update Existing Parks, Trails & Open Space



Attachment 5

Borough Concurrence

Downingtown Train Station Relocation

Section 4(f) Exception: Johnsontown Park and Brandywine Trail

The Downingtown Borough Council has considered the proposed project to construct a pedestrian bridge over East Branch Brandywine Creek in order to connect the Brandywine Trail in Johnsontown Park to a shared use bike path in the proposed southwest Downingtown Train Station parking lot. In regard to the applicability of Section 4(f) protections and an exception for Section 4(f) approval under 23 CFR 774.13(g), the Borough Council offers the following comments.

- The Council asserts that the Johnsontown Park and the Brandywine Trail serve a major recreational role for Downingtown Borough residents.
- The Council concurs that the proposed use of the Section 4(f) properties (Johnsontown Park and the Brandywine Trail) is solely for the purpose of enhancing the activity (recreation) that qualifies them for Section 4(f) protection.

Philip Dague, member of Borough Council

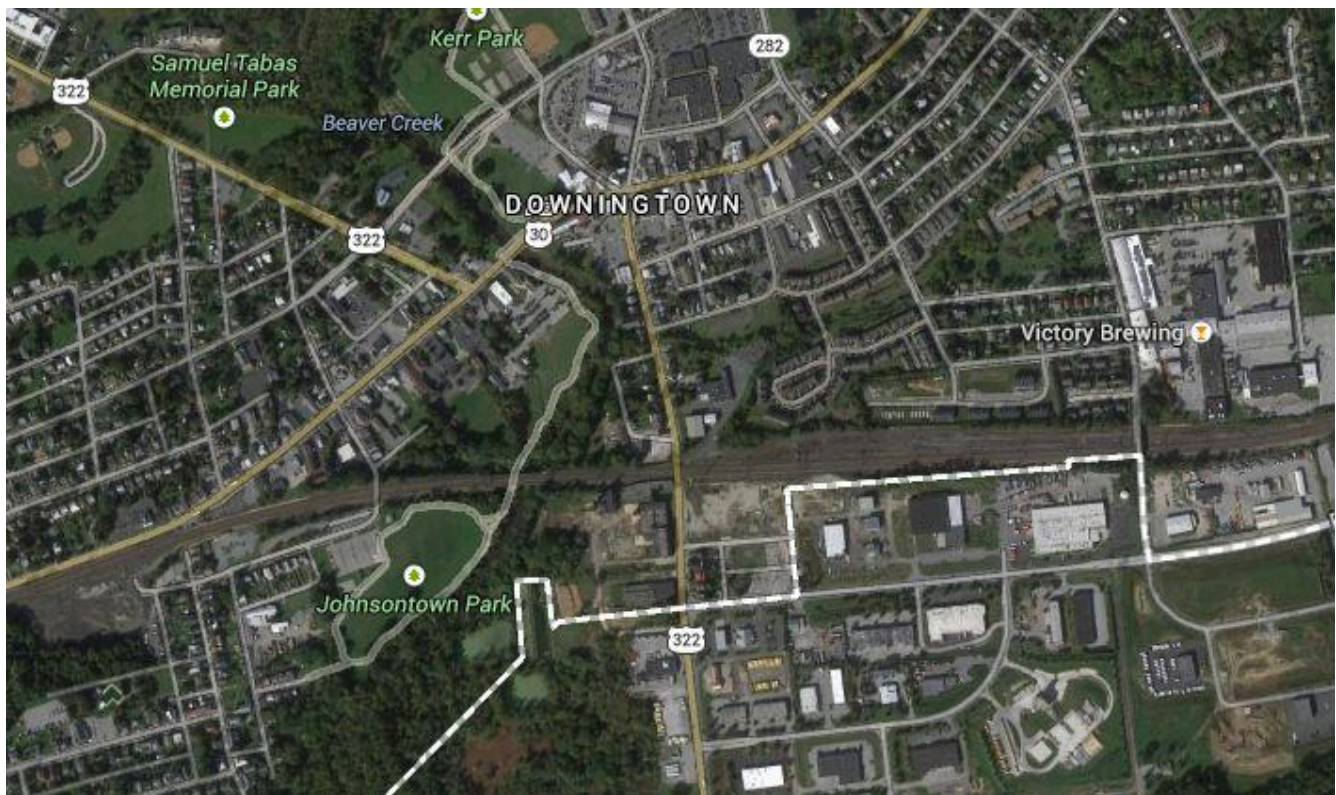
Name, Title of Signatory

Philip Dague 1/20/16

Signature / Date

DOWNINGTOWN TRAIN STATION PROJECT

Section 4(f) Evaluation



September 2016

Prepared For:

United States Department of Transportation, Federal Transit
Administration
and
Pennsylvania Department of Transportation Bureau of Public
Transportation

Prepared By:



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DOWNINGTOWN TRAIN STATION PROJECT

Borough of Downingtown, Chester County, Pennsylvania

SECTION 4(F) EVALUATION

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Philadelphia, Pennsylvania

United States Department of Transportation, Federal Transit Administration

Pennsylvania Department of Transportation Bureau of Public Transportation

September 2016

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I. INTRODUCTION

The Pennsylvania Department of Transportation (PennDOT), with the Federal Transit Administration (FTA) as the lead federal agency, proposes to construct a new train station in the Borough of Downingtown.

Pursuant to Section 4(f) of the U.S. Department of Transportation Act of 1966, 49 USC § 303, as amended, the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land including a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance, or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

There is no prudent and feasible alternative to using that land, and;

The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

The Secretary may also approve such use if FTA determines that the use of the property has a *de minimis* impact. A *de minimis* impact, in general, means that the use of the transportation project will not adversely affect the activities, features, and attributes of the Section 4(f) resource (SAFETEA-LU Section 6009 Implementation Study). A project may “use” land from a Section 4(f) resource in three ways:

When land is permanently incorporated into a transportation facility;

When there is a temporary occupancy of land that is adverse in terms of the statue's preservation purpose as determined by the criteria set forth in 23 CFR § 774.13(d); or

When there is a constructive use of a Section 4(f) resource as determined by the criteria set forth at 23 CFR § 774.15.

If no prudent and feasible avoidance alternative exists, the alternative that results in the least harm and that includes all possible minimization efforts to the Section 4(f) resource, may be approved. If an alternative avoids the Section 4(f) resource and is found to be prudent and feasible it must be selected.

Five Section 4(f) resources have been identified within the project area: three historic resources, one public park, and one public trail facility:

- Pennsylvania Railroad: Mainline (Philadelphia to Harrisburg) – eligible for the National Register
- Frank P. Miller Paper Company/ Downingtown Paper Box Company – eligible for the National Register
- Torbert Dwelling
- Johnstown Park

- Brandywine Trail

FTA has determined that Johnstown Park and Brandywine Trail meet the requirements of a Section 4(f) Temporary Occupancy exception under 23 CFR 774.13. Neither the park nor the trail are included in this individual Section 4(f) evaluation and are evaluated in a separate memo. One other historic resource, the Torbert Dwelling, was identified as being eligible for listing in the National Register during the Section 106 evaluation; however, FTA has determined that the project will not permanently incorporate land associated with the historic resource into the project nor would the project substantially impair the attributes, features, and activities that qualify it for protection under Section 4(f). Therefore, there would no use of the Torbert Dwelling and it is not evaluated further in this individual Section 4(f) evaluation.

The term “individual Section 4(f) evaluation” is used in this evaluation to refer to the process of assessing avoidance alternatives, determining the alternative with the least overall harm, and considering all possible planning to minimize harm.

The official with jurisdiction over the historic Section 4(f) resources is the Director of the Pennsylvania Historical and Museum Commission (PHMC), who is the State Historic Preservation Officer (SHPO). FTA anticipates that the proposed project will have an Adverse Effect on both the National Register-eligible Pennsylvania Railroad: Mainline (Philadelphia to Harrisburg) and the Frank P. Miller Paper Company/Downingtown Paper Box Company. An adverse effect finding would preclude this project from a *de minimis* impact finding. PennDOT and FTA have therefore determined that an Individual Section 4(f) Evaluation is required.

II. PROJECT PURPOSE AND NEED

The purpose of the Downingtown Station Project is to provide an Americans with Disabilities Act (ADA) compliant train station which will accommodate current and future Amtrak and SEPTA ridership, improve access and mobility to both the station and Downingtown, and support planned growth in Downingtown.

The following project needs have been identified;

1. **The current station is not readily accessible as required by the ADA.**

Per a Court Order that found Amtrak in violation of the Americans with Disabilities Act (1990), Amtrak had been directed to make all facilities ADA accessible by 2010. In 2015, the Department of Justice re-affirmed this obligation and found Amtrak in violation of the ADA as a result of its failure to comply.

The existing passenger platforms at Downingtown Station do not provide appropriate ADA access for boarding or disembarking trains. The platforms are low-level, requiring the use of steps to enter and exit train cars. The station’s location on a horizontal curve precludes the installation of high platforms which would eliminate the need for stairs and thereby meet ADA requirements. Both Federal Railroad Administration and Amtrak standards limit the construction of high-level platforms to curves with curvature less than

1° 40' and track superelevation less than 1 inch which would provide ADA-compliant gaps between the platform and car. The track at the current Downingtown station location has a 3 inch superelevation. The curve also results in platform lengths shorter than the 500 feet minimum necessary to provide access to the entire train.

Furthermore, the current station configuration does not provide ADA-compliant access between platforms. Crossing between the eastbound and westbound platforms requires either the use of a pedestrian tunnel accessible only via stairs, or traversing approximately 2,500 feet along Lincoln Highway and Viaduct Avenue, including a one-lane underpass with no sidewalks.

2. Passenger accommodations are lacking.

The existing station provides 360 parking spaces, with an average 94% utilization on weekdays from 983 riders (816 on SEPTA and an additional 168 on Amtrak) based on the 2015 Pennsylvania State Rail Plan. The station lots are so often full that illegal parking in the adjacent residential neighborhoods has been identified as a recurring issue. Ridership is anticipated to increase by up to 13% for SEPTA by 2040, and 43% for Amtrak by 2035, further adding to parking demand. The Borough of Downingtown requires one (1) handicap parking space per 25 parking spaces. In conjunction with insufficient parking, the current lots do not provide sufficient pull off areas or turnarounds for jitney buses.

The station facilities themselves are also lacking conveniences for the users. Ticketing is not available and no electronic information boards are provided.

3. Multimodal connections to Downingtown from both the station and the region are missing or problematic, impacting economic growth.

The station's location and lack of pedestrian and bicycle connections limits the connectivity for rail riders to the amenities in Downingtown Borough. The main downtown area, Mill Town Square, can only be accessed by walking or biking over half a mile along Lincoln Highway or following an indirect route through Johnstown Park and along the Brandywine Trail. Due to a lack of crossing of Brandywine Creek, the Boot Road area requires traveling another 2,000 feet down Brandywine Avenue. This lack of connectivity limits both access to employment as well as retail outlets. Both the Downingtown and Chester County comprehensive plans express a desire for Downingtown to be a walkable, mixed use suburban community. The current station location does not contribute to this vision for the town.

Downingtown has made a concerted effort to identify and implement strategies for economic revitalization for nearly 20 years. The Delaware Valley Regional Planning Commission initiated a study in 1999 on the Borough's behalf to evaluate economic development opportunities associated with a Keystone Opportunity Zone. In their 2013 Comprehensive Plan Update, Downingtown Borough identified Transit Oriented

Development as one of its primary economic development goals. The current station site is constrained in the amount of available area for new or re-development.

Chester County, in its 2014 Transportation Plan, identified new connections feeding into and out of Downingtown Station to both West Chester and Honey Brook. These connections would improve the regional connectivity but also increase demand at the station, with new users facing the same impediments to access for many of the Borough's amenities.

III. IDENTIFICATION AND DESCRIPTION OF THE SECTION 4(f) RESOURCES EVALUATED IN DETAIL

Pennsylvania Railroad Main Line (Philadelphia to Harrisburg)

The Pennsylvania Railroad Main Line (Philadelphia to Harrisburg) was previously determined eligible for the National Register of Historic Places under Criteria A for its significance in the fields of transportation history and Criteria C for engineering methodologies. The route connects the cities of Philadelphia and Harrisburg and includes tracks, bridges, substations, stations, catenaries, and other facilities that support the operation of the railroad. In 2013, the PHMC determined that the period of significance extends from 1834 to 1958 – the year in which the railroad received its charter from the Pennsylvania Legislature until the railroad's last profitable year.

The section of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) within the Area of Potential Effects (APE) of the Downingtown Train Station Project includes the railroad resources within the railroad right-of-way (approximately 70 feet wide) extending approximately 4,800 feet and including all Alternative locations, including the existing station location.

Per the PHMC Guidelines for the Evaluation of Railroads, contributing resources to the railroad linear district are those that were constructed during its period of significance (1834-1958) and retain sufficient integrity to convey their historical significance. Track, ballast, signals and small-scale elements are generally not considered contributing resources. Contributing resources in this segment of the Pennsylvania Railroad: Main Line include the stone arch bridge over Brandywine Avenue and the catenary line support poles. Non-contributing features include two ca. 1915 reinforced concrete bridges over Brandywine Avenue (non-contributing because they were constructed for spurs that serviced local industries or connected other regional lines to the Main Line), tracks, switches, signals, catenary wires, and any other small-scale elements. There is no building located at the existing station. The passenger shelters on the existing platforms were constructed ca. 1995 and are non-contributing elements.

The proposed project would result in a use of the Pennsylvania Railroad: Main Line, as construction of new high level platforms, ramps, and elevators to meet ADA requirements would permanently incorporate land of the historic property into the project.

Frank P. Miller Paper Company / Downingtown Paper Box Company

The Frank P. Miller Paper Company / Downingtown Paper Box Company was recommended eligible for the National Register of Historic Places as a result of the Historic Resource Survey for this project. It was recommended under Criteria A for its association with the industrial development of Downingtown and Criteria B for its association with the prominent local paper magnate, Frank P. Miller. The period of significance extends from 1888 to 1968—the year Mill No. 1 was designed and constructed by Frank P. Miller, to the year the Downingtown Paper Company and Downingtown Paper Box Company were acquired by the international corporation, Sonoco Products Company, and were no longer a local Downingtown paper company. The complex is currently abandoned and vacant.

The boundary encompasses approximately 6.6 acres and all buildings and structures are considered to be contributing resources, including Mill No. 1, the railroad platform, the brick drying tower, the brick stack, the power generating building and concrete stack, and the Downingtown Paper Box Company factory building. The entire resource is located within the APE for the proposed project. Construction of high level platforms, ramps, and elevators for ADA compliance, and the necessary parking areas at the proposed project location would require demolition of the historic resource. Because the incorporation of this entire resource into the project would be adverse under Section 106 of the National Historic Preservation Act (NHPA), as amended, a de minimis impact finding cannot be made and there would be a permanent use of the property.

IV. AVOIDANCE ALTERNATIVES ANALYSIS

Under Section 4(f), the use of parks, recreation areas, wildlife/waterfowl refuges and historic sites for transportation purposes may only occur if no feasible and prudent avoidance alternative to such use exists and if the project includes all possible planning to minimize harm to resources from such use. A feasible and prudent avoidance alternative, as defined in 23 CFR 774.17, avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweigh the importance of protecting the Section 4(f) property. PennDOT identified and evaluated potential avoidance alternatives for purposes of Section 4(f). Refer to Appendix A for project, resource, and alternatives location maps.

According to Section 4(f) regulations at 23 CFR §774.17, feasible and prudent is defined as:

- (1) A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute, an alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(2) An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(3) An alternative is not prudent if:

- (i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- (ii) It results in unacceptable safety or operational problems;
- (iii) After reasonable mitigation, it still causes:
 - (A) Severe social, economic, or environmental impacts;
 - (B) Severe disruption to established communities;
 - (C) Severe disproportionate impacts to minority or low income populations; or
 - (D) Severe impacts to environmental resources protected under other Federal statutes;
- (iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude; It causes other unique problems or unusual factors; or
- (v) It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Alternative I: No-Build

The No-Build Alternative involves taking no action, not proceeding with the construction of the new train station, and continuing to utilize the Downtown Train Station as it exists in its present location. This alternative does not meet the needs of this project, including complying with court-ordered ADA requirements that specify a 500-foot-long high-level platform to serve the entire length of the train, offering larger parking lots to meet existing and future ridership demands and additional ADA accessible spaces, and improving access and mobility to better connect Downtown to the larger region. Implementation of the No-Build Alternative would be a Total Section 4(f) Resource Avoidance Alternative, but would fail to meet the project purpose and need. As such, the No-Build Alternative would not be a prudent avoidance alternative as it would not meet the stated purpose and need.

Alternative II: Station Retrofit

The project team considered the alternative of retrofitting the existing Downtown Station, which would have involved the construction of new high-level platforms and passenger waiting areas, elevators, ramps, and an ADA-compliant pedestrian bridge spanning the railroad. The existing station location, however, is on a horizontal curve greater than the 1° 40' maximum set by FRA and Amtrak, and does not provide sufficient room for the required platforms. These unacceptable geometric deficiencies can result in unsafe conditions and operational problems.

Additionally, the existing station does not have room for the needed passenger accommodations or parking improvements identified in Section II. The station is tightly located between Lincoln Highway to the north and Viaduct Avenue to the south. Adjacent to these roadways is dense commercial and residential development with no available space available for additional parking expansion. Providing the needed parking would require acquisitions of neighboring businesses and result in commercial and residential displacements. Costs for this displacement would be of extraordinary magnitude in comparison to the other alternatives.

Contributing elements of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) at the existing station are limited to the catenary poles. There is no station building and the existing passenger shelters were constructed ca. 1995 and are not contributing. The construction required to retrofit the existing station to be ADA-compliant may require relocating the catenary poles and will introduce new visual elements within the boundary of the historic resource. This would constitute an effect on the historic resource but would not diminish the integrity of the property's significant historic features or those characteristics which make it eligible for listing in the National Register of Historic Places. As such, the Station Retrofit Alternative would likely result in a No Adverse Effect Section 106 finding and a *de minimis* Section 4(f) use. This alternative would avoid use of the Frank P. Miller Paper Company / Downingtown Paper Box Company.

The Station Retrofit alternative is not a Total Section 4(f) Avoidance Alternative as it would still involve permanent incorporation of land from the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) that would result in an adverse effect under Section 106. Because of the horizontal curve and unacceptable geometric problems, and the impacts to the surrounding neighborhood as a result of additional parking construction, this alternative would not be a prudent avoidance alternative as it would not meet the stated purpose and need.

Alternative III: Station Location to the West

The location of Alternative III would be on a former rail yard to the west of the existing station, a property currently owned by Amtrak (see Appendix A, Figure 3). This property is located on the south side of the tracks, between the railroad and the residential community of Johnstown. Adjacent to the north of the tracks at this location is Lincoln Highway. The lack of curvature of the train tracks would allow for construction of a new station and high level platform on the south side of the tracks; however, it is unlikely that the alignment would provide the required 500 feet of tangent track for the north platform due to the proximity of Lincoln Highway. In order to mitigate these site constraints for the ADA compliant station, significant development relocation and roadway realignment would be required at Lincoln Highway adding costs and displacements. The site constraints adjacent to Lincoln Highway are such that this alternative would not allow for any additional parking at the north, westbound platform. With the additional cost and displacements associated with the roadway realignment and the failure to satisfy the need for additional parking at the north and westbound platform, this Alternative does not appear to be prudent.

Additionally, the location of a new station within a residential neighborhood farther from downtown Downingtown than the existing station, would have little economic impact unless

additional retail, commercial, or residential units are developed. Pedestrian access between the station and the Borough would be reduced, and vehicular access to or from this station and downtown would require use of a single-lane underpass on Viaduct Avenue. While the underpass can accommodate existing traffic, this alternative would not meet the need for improving multimodal connections between the station and Downingtown.

Contributing elements of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) at this Alternative location are limited to the catenary poles. Construction for a new station may require relocating the catenary poles and the project will introduce new visual elements within the boundary of the historic resource. This would constitute an effect on the historic resource but would not diminish the integrity of the property's significant historic features or those characteristics which make it eligible for listing in the National Register of Historic Places. As such, the Station Retrofit Alternative would likely result in a No Adverse Effect Section 106 finding and a *de minimis* Section 4(f) use. This alternative would avoid use of the Frank P. Miller Paper Company / Downingtown Paper Box Company.

The Station Location to the West alternative is not a Total Section 4(f) Avoidance Alternative as it would still involve permanent incorporation of land from the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg), which would result in an adverse effect under Section 106. Alternative III is not considered prudent due to the site constraints on the north side of the tracks and the difficulty of constructing an ADA-compliant, high-level platform in the space available. Furthermore, locating the station farther from downtown Downingtown would hinder multimodal connections to the Borough and would not aid the economic revitalization efforts undertaken by the Borough or County. This alternative would not be a prudent avoidance alternative as it would not meet the stated purpose and need.

Alternative IV: Station Location to the East

The project team considered locating the Downingtown Station to the east of the current station. Alternative IV would involve the construction of a new train station approximately 2000 feet east of the existing station, at the intersection of the rail line and Brandywine Avenue (see Appendix A, Figure 4). The project would entail the construction of a new ADA-compliant train station with new high-level platforms which will extend approximately 175 feet to the east and 325 feet to the west of the existing Brandywine Avenue overpass on both the north and south sides of the rail bed. The two ca. 1915 concrete bridges (non-contributing) on the north side of the railroad, built to carry spurs into the northeast quadrant, will be removed. Elevator and stair towers will be located in each quadrant.

This location, which spans both sides of Brandywine Avenue and both sides of the tracks, would provide sufficient parking to accommodate rising Amtrak and SEPTA ridership as well as support the existing redevelopment plans in Downingtown. The size of the site will allow for the construction of 980 parking spaces, all in the southwest and southeast quadrants. Station access will be from Brandywine Avenue (State Route 0322), as well as from Boot Road and Logan Avenue, which are all Borough roads. Additionally, there will be a loop drop off area in the northwest quadrant as well as drop off areas in the southwest and southeast quadrant parking lots. Logan Avenue and Boot Road are proposed to be extended to the west side of

Brandywine Avenue. The surface lot designs also include associated landscaping and storm water management features.

In order to allow safe pedestrian/bike travel from the south quadrants to the north platform, the stone arch Amtrak Bridge over Brandywine Avenue (a contributing element) would be replaced with a longer span to allow for an urban arterial section including walkways and shoulders between vehicles and pedestrians on both the east and west side of Brandywine Avenue. The existing stone arch bridge is approximately 26 feet wide and spans two lanes of traffic and a narrow sidewalk on the east side of Brandywine Avenue. The arched opening has a low clearance that leads drivers to perceive it as a single-lane underpass.

Elevator/stair towers are proposed for each quadrant, so the platforms will be used for west-east movement across Brandywine Avenue and the railroad span will provide the north-south pedestrian movement. In order to prevent mid-block west/east crossing over Brandywine Avenue, a barrier will be installed along the inside of the sidewalk on each side for a length coinciding with station access. Pedestrian access in and around the station and connectivity to downtown areas north of the station and development south will greatly improve.

A pedestrian bridge is proposed over Brandywine Creek to provide the community in southwest Downingtown with west/east access to the station as well as to downtown Downingtown. There are currently no pedestrian structures for residents west of Brandywine Creek to access the downtown area. This bridge will span from the Brandywine Trail in Johnsontown Park to the southwest train station parking lot. Additionally, a shared use bike path will be constructed in the southwest quadrant to connect the bridge to the station and to Boot Road, and there will be covered bike storage in both the northwest quadrant and the southeast quadrant.

Alternative IV will result in a Section 4(f) use of both the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and the Frank P. Miller Paper Company / Downingtown Paper Box Company. Contributing elements of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) in this Alternative location include the catenary poles and the stone arch bridge carrying the railroad over Brandywine Avenue. This alternative will require the replacement of the stone arch bridge with a longer-span bridge in order to improve safety and connectivity around the new station location. The alternative will also require the removal of three catenary structures in order to allow for the construction of the new platforms.

All contributing elements of the Frank P. Miller Paper Company / Downingtown Paper Box Company will be demolished in this alternative. The entire 6.6-acre historic property is located within the southwest quadrant of the project, where the largest proposed parking lot will be located. Several contributing buildings adjacent to the railroad (the Beater Engine Building, Stock Rooms, Stock House, Power Generating Plant, and stock room railroad platform) will need to be removed to provide space for the high-level platforms, elevator tower, and sidewalk ramps. The remaining contributing elements (the Machine Rooms and Warehouses, the Drying Tower, and the Factory Building) will also need to be removed for the parking lot.

The construction of this new train station will be ADA-compliant, accommodate rising Amtrak and SEPTA ridership, improve access and mobility in Downingtown, and better connect

Downingtown to the region. Although this alternative will result in a use of both the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and the Frank P. Miller Paper Company / Downingtown Paper Box Company, the project meets the purpose and needs of the project, does not cause safety or operational problems, would not cause significant social, economic, or environmental impacts, and would not result in costs of extraordinary magnitude. This alternative satisfies the stated purpose and needs of the project, but would not be a feasible or prudent avoidance alternative as it results in a use of both historic resources.

Summary of Avoidance Alternatives Analysis

There is no feasible and prudent avoidance alternative. The only alternative to avoid use of the historic resources is Alternative I: No-Build, however it does not meet the project purpose and need and is therefore not prudent. The other three alternatives all require use of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and Alternative IV also requires use of the Frank P. Miller Paper Company / Downingtown Paper Box Company. Because Alternatives I, II, and III permanently incorporate land from the historic resource into the project, there would be no feasible or prudent avoidance alternative.

Avoidance Alternative	Meets Purpose and Need	Feasible	Prudent	Reason for Dismissal
I. No-Build	No	Yes	No	Does not meet any of the project purpose and needs.
II. Station Retrofit	No	Yes	No	<p>Does not meet the project purpose and need.</p> <ul style="list-style-type: none"> • ADA compliance unachievable due to geometric deficiencies caused by the horizontal curve in the track. • Fails to improve access to downtown Downingtown. <p>Impact at Extraordinary Magnitude</p> <ul style="list-style-type: none"> • Cost and displacements associated with additional parking
III. Station Location West	No	Yes	No	<p>Does not meet the project purpose and need.</p> <ul style="list-style-type: none"> • Site constraints would not allow for additional parking on the north, westbound side. • Fails to improve access to downtown Downingtown. • Not consistent with Downingtown or Chester County redevelopment plans. <p>Impact at Extraordinary Magnitude.</p> <ul style="list-style-type: none"> • Costs and displacements associated with roadway realignment to accommodate north, westbound platform.
IV. Station Location East	Yes	Yes	Yes	Alternative with the least overall harm.

V. DETERMINE ALTERNATIVE WITH LEAST OVERALL HARM

If no feasible and prudent alternative is identified that would avoid using a Section 4(f) property, FTA must determine the alternative that would cause the least overall harm to Section 4(f) properties using the following factors (23 CFR 774.3(c)(1)):

- (1) the ability to mitigate adverse impacts to each Section 4(f) property;
- (2) the relative severity of the remaining harm after mitigation;
- (3) the relative significance of each Section 4(f) property;
- (4) the views of the officials with jurisdiction over each property;
- (5) the degree to which each alternative meets the project purpose and need;
- (6) the magnitude of adverse effects to resources not protected by Section 4(f); and
- (7) substantial cost differences among the alternatives.

Assessment of Least Harm/All Possible Planning to Minimize Harm

Because there is no feasible and prudent avoidance alternative, FTA must weigh the factors under 23 CFR 774.3(c)(1) to determine the alternative with the least overall harm. Measures to avoid the use of the Section 4(f) resources were explored, but the only alternative that avoided the use of the Section 4(f) Resources (Alternative I: No-Build) did not meet the purpose and needs of the project. Alternatives II and III would result in a use of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and would have avoided use of the Frank P. Miller Paper Company / Downingtown Paper Box Company, but neither alternative met the purpose and need of the project.

Modifications to minimize use of the Section 4(f) resources were considered in Alternative IV. To meet the ADA station requirements and the parking needs of the proposed project, removal of the entire Frank P. Miller Paper Company / Downingtown Paper Box Company historic property could not be avoided. The contributing buildings adjacent to the railroad would need to be removed to allow for the construction of the ADA-compliant station. The remaining contributing buildings would need to be removed for the needed parking facilities. Leaving the abandoned buildings in place and shifting the parking further south would be a safety hazard and potential liability for PennDOT.

To improve connectivity and access between the station and Downingtown, the stone arch bridge carrying the railroad over Brandywine Avenue, a contributing element of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg), will be replaced. A longer-span structure will provide safe pedestrian, bicycle, and vehicular passage in and around the station location, which will accommodate the existing and rising ridership and better connect the station to downtown Downingtown. A system of pedestrian tunnels and overpasses was originally proposed in order to avoid use of the contributing historic bridge; however, this system introduced several negative factors including safety, cost, constructability, and maintenance

concerns. Removal of three catenary structures could not be avoided, but their removal would not have affected the integrity of the historic property.

Use of the Section 4(f) resources could not be avoided, so measures to mitigate the impacts were drafted by FTA and PennDOT. Mitigation includes an exhibit in the new Downingtown Station building, which will detail the history of the Downingtown Station and the updates made to the station and associated railroad components. PennDOT will also prepare and make available to the public an electronic digital booklet and a paper brochure, both of which will show and explain through narrative, maps, and photographs, the changes made to the Downingtown Station and the associated railroad infrastructure.

Finally, PennDOT will prepare a GIS-based online Story Map which conveys the history and significance of the paper industry to Downingtown and the surrounding townships in Chester County. The Story Map will be visually focused and will be linked to GPS points to help convey the prominence of the paper industry in the Downingtown area.

The stated purpose of the project, building an ADA compliant station, is not supported by the no-build or Alternatives II and III because substantial cost differences, the ability to mitigate adverse effects under Section 106, adverse effects to properties not protected by Section 4(f), and after consideration of the officials with jurisdiction. Therefore, FTA has determined that the alternative with the least overall harm is Alternative IV East and all possible planning to minimize harm has been documented.

VI. COORDINATION WITH OFFICIAL OF JURISDICTION

As the officials with jurisdiction over the Section 4(f) Resource, the PA SHPO has been involved throughout the development of the Downingtown Station Project. The FTA, PennDOT and the PA SHPO have entered into a Programmatic Agreement (PA) that outlines all steps that will be taken to complete Section 106, including additional information for identifying historic and archaeological resource and determinations of effect. FTA anticipates an adverse effect finding, so a Memorandum of Agreement (MOA) will be developed following the determination of effect.

VII. CONCLUSION

Based on an analysis of the avoidance alternatives and weighing the project purpose and need with the use of Section 4(f) resources, there is no feasible and prudent avoidance alternative. The Station Location to the East alternative would cause the least overall harm in light of Section 4(f)'s preservation purpose in comparison to the other project alternatives. SEPTA has committed to minimize harm to the Section 4(f) resources with proposed mitigation for the historic resources.

RESOURCES

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- 1975 *Unionville, Pennsylvania*. 7.5-Minute Topographic Quadrangle. Reston, VA: U.S. Geological Survey.

APPENDIX A:
FIGURES AND PHOTOGRAPHS

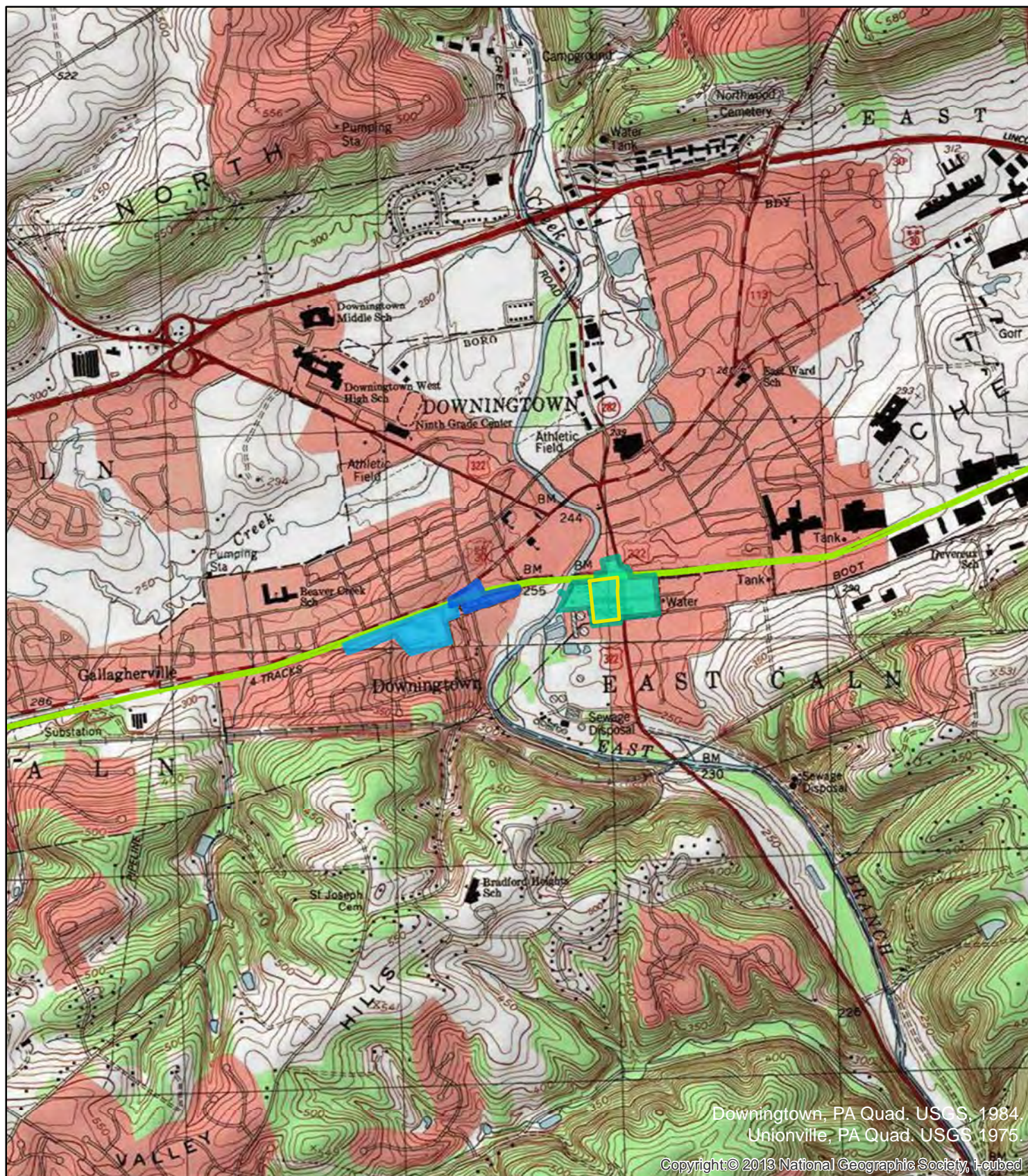


Figure 1: Project and Resource Location Map

Key:

- Pennsylvania Railroad
- Frank P. Miller Paper Co.
- Alternatives I and II
- Alternative III
- Alternative IV (preferred)



Feet

0 1,150 2,300



*Downingtown
 Train Station Project*

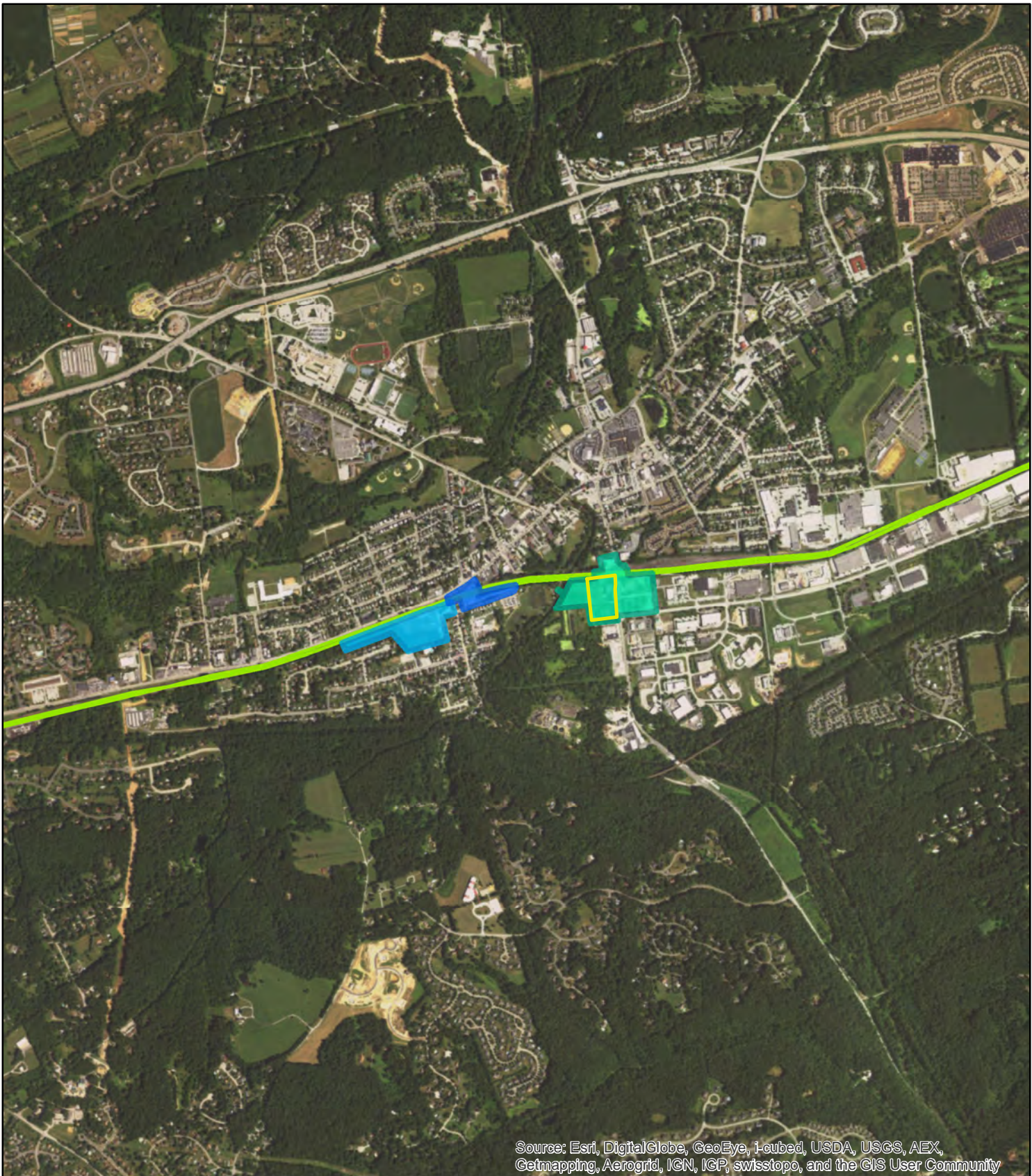


Figure 2: Project and Resource Location Map

Key:

- Pennsylvania Railroad
- Frank P. Miller Paper Co.
- Alternatives I and II
- Alternative III
- Alternative IV (preferred)



Feet

0 1,150 2,300



*Downingtown
Train Station Project*



Figure 3: Alternatives I, II, III

Key:

- Pennsylvania Railroad
- Alternatives I and II
- Alternative III



Feet

0 250 500



*Downtown
Train Station Project*

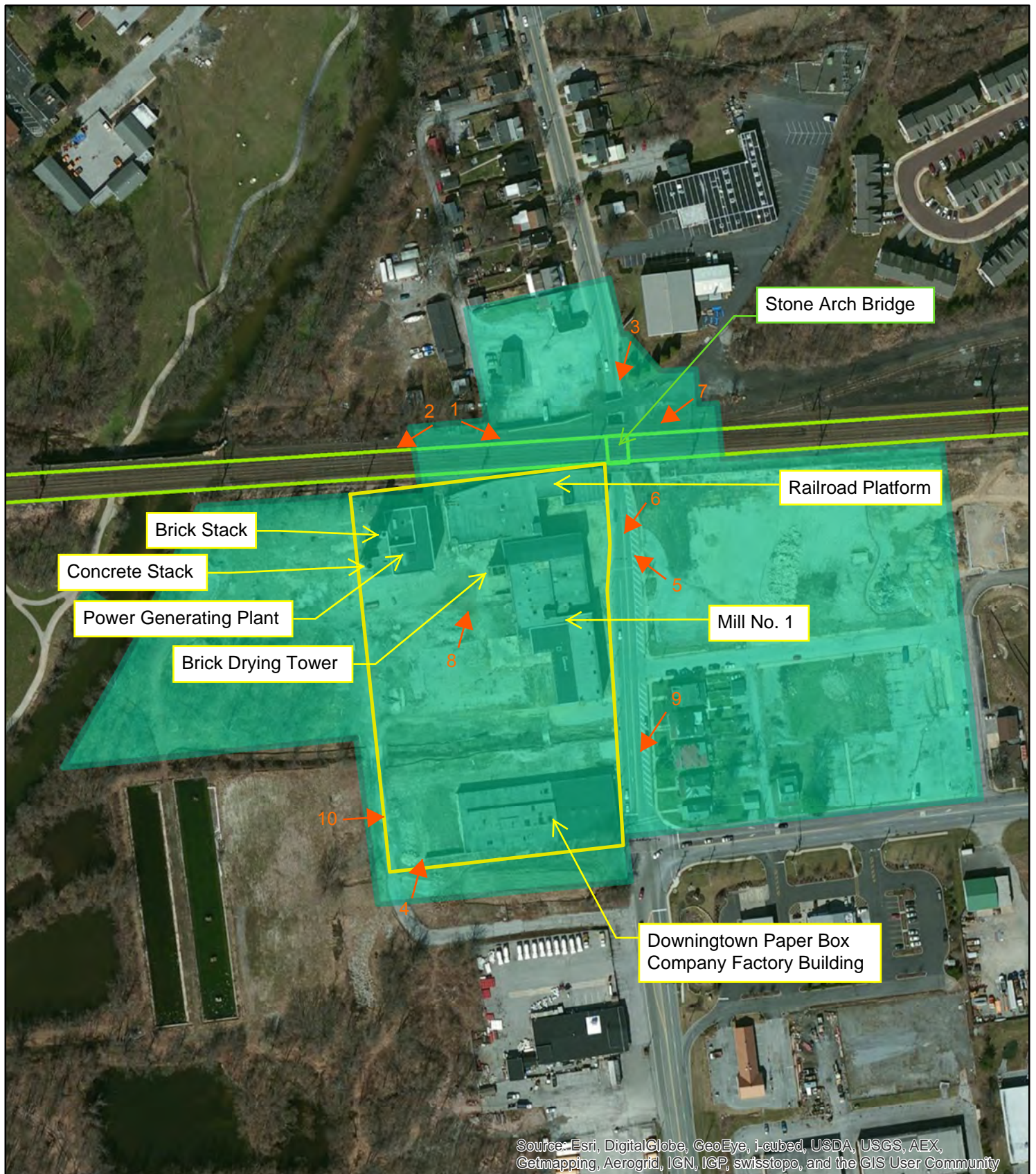


Figure 4: Alternative IV

Key:

- Pennsylvania Railroad
- Frank P. Miller Paper Co.
- Alternative IV (preferred)
- ➔ Photograph Locations



Feet

0 125 250



*Downingtown
Train Station Project*



Photograph 1: View of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg), looking east from the approximate location of the proposed west-bound platform (Alternative IV). The east-bound platform will be located directly across the tracks.



Photograph 2: View of the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg), looking west from the approximate location of the proposed west-bound platform (Alternative IV). The east-bound platform will be located directly across the tracks.



Photograph 3: The single-span stone arch bridge (ca. 1895) in the background is a contributing element to the Pennsylvania Railroad: Main Line (Harrisburg to Philadelphia). The ca. 1915 reinforced concrete bridge in the foreground is non-contributing. View looking south.



Photograph 4: View of the Frank P. Miller Paper Company/Downingtown Paper Box Company, looking north. The catenary lines visible in the distance at the center of the image mark the approximate location of the preferred alternative.



Photograph 5: View of Mill No. 1 of the Frank P. Miller Paper Company, looking northwest from Brandywine Avenue.



Photograph 6: View of Mill No. 1 of the Frank P. Miller Paper Company, showing the ca. 1934 machine rooms and warehouses addition, looking southwest.



Photograph 7: Frank P. Miller Paper Company, showing the railroad platform of the ca. 1900 stock rooms and stock house in the foreground, and the power generating building in the background, looking southwest.



Photograph 8: Mill No. 1 of the Frank P. Miller Paper Company, showing Mill No. 1 and the ca. 1888 drying tower. View looking north.



Photograph 9: Overview of the Downingtown Paper Box Company factory building, looking southwest from Brandywine Avenue.



Photograph 10: View of the rear elevation of the Downingtown Paper Box Company factory building, looking east.

APPENDIX B:
CORRESPONDENCE



U.S. Department
of Transportation
**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

May 24, 2016

Ms. Emma Diehl
Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
Commonwealth Keystone Building, Second Floor
400 North Street
Harrisburg, PA 17120-0093

**Re: Enclosure: Historic Resource Survey Forms and Archaeological Analysis
Proposed Downingtown Train Station Relocation Project
Chester County, Pennsylvania**

Dear Ms. Diehl:

The Pennsylvania Department of Transportation (PennDOT), with cooperation from Amtrak and the Southeastern Pennsylvania Transportation Authority (SEPTA), is planning the relocation of the Downingtown Train Station in the Borough of Downingtown, Chester County, Pennsylvania. The proposed new train station, to be used by Amtrak and SEPTA, will be located less than a half-mile east of the existing station location and will be Americans with Disabilities Act (ADA) compliant. The new station will include high-level side platforms, elevator/stair towers, a railroad bridge, retaining walls, vehicular parking, and a pedestrian bridge which connects the station area to Johnsonstown Park and Brandywine Trail on the west side of East Branch Brandywine Creek, which borders most of the project area (the Project). PennDOT intends to fund this Project, in part, with a future grant from the Federal Transit Administration (FTA), an action that triggers consultation under Section 106 of the National Historic Preservation Act, as amended.

I have enclosed a "Request to Initiate Consultation in Compliance with the State History Code and Section 106 of the National Historic Preservation Act Form" describing the results of a preliminary cultural resources assessment, conducted on behalf of the Pennsylvania Department of Transportation (PennDOT) for the above-referenced Project. As currently planned, implementation of the Project will result in property acquisitions, building demolitions, and ground surface impacts.

There are no recorded archaeological sites within the archaeological Area of Potential Effects (APE) (see enclosed APE Map). Multiple sites have been recorded within a mile in similar stream floodplain/terrace settings associated with the East Branch Brandywine Creek, which borders the APE on the west. The southeast portion of the APE, east of Brandywine Avenue and generally south of Logan Avenue, exhibits a moderate to high potential for containing intact soils with cultural deposits. A Phase I archaeological survey *is* recommended for this portion of the APE.

**Re: Enclosure: Historic Resource Survey Forms and Archaeological Analysis
Proposed Downingtown Train Station Relocation Project
Chester County, Pennsylvania**

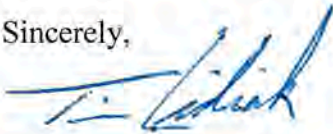
The western end of a proposed pedestrian bridge over the East Branch Brandywine Creek will terminate on a potentially undisturbed section of floodplain embankment, but most of the impact will be confined to the stream channel and steep slope of the embankment. Therefore, Phase I archaeological survey **is not** recommended for this area. Historic research indicates that the remainder of the Project Area has undergone extensive disturbance through industrial (e.g., paper mill and lumber yard) and railroad development, which also raises possible soil contamination issues. A Phase I archaeological survey **is not** recommended for these industrial areas, as illustrated on the attached map and detailed in the accompanying documentation.

A Historic Resources Survey resulted in the identification of 22 above-ground resources within the direct and indirect APE. The Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) was previously determined eligible for the National Register of Historic Places (NRHP). The Frank P. Miller Paper Company/ Downingtown Paper Box Company is recommended eligible for the NRHP under Criteria A and B; and the Torbert Dwelling (218 Brandywine Avenue) is recommended eligible for the NRHP under Criterion C. The other 19 resources are recommended not eligible for the NRHP. The proposed Project has the potential to adversely affect both the Pennsylvania Railroad: Main Line (Philadelphia to Harrisburg) and the Frank P. Miller Paper Company/ Downingtown Paper Box Company. It is not anticipated that the Torbert Dwelling will be affected by the proposed Project, due to its distance from the resource and the criterion under which it is potentially eligible for the NRHP.

FTA requests concurrence on determinations of eligibility from the PHMC. A Determination of Effects Report and a Memorandum of Agreement will subsequently be developed.

If you have any questions regarding this documentation, please contact Mr. Timothy Lidiak, Community Planner, at (215) 656-7084 or timothy.lidiak@dot.gov.

Sincerely,



Timothy Lidiak, AICP
Community Planner

cc: Mark Shaffer (PHMC)
Jennie Granger (PennDOT)
Angela Welt (Michael Baker International)
Vida Morkunas (FTA)

Attachment A



Pennsylvania
Historical & Museum
Commission

PROJECT REVIEW FORM

Request to Initiate SHPO Consultation on
State and Federal Undertakings

SHPO USE ONLY

DATE RECEIVED:

ER NUMBER:

REV: 5/2012

SECTION A: GENERAL PROJECT INFORMATION

Is this a new submittal? ☒ YES ☐ NO OR ☐ This is additional information for ER Number:

Project Name Downingtown Train Station Relocation Project

County Chester

Project Address US 322 (Brandywine Avenue)

City/State/ Zip Downingtown PA 19335

Municipality Borough of Downingtown

SECTION B: PRIMARY CONTACT INFORMATION

Name Jennie Granger, AICP

Phone (717) 705-1212

Company PennDOT

Fax

Street/P.O. Box 400 North Street, 6th Floor

Email jegranger@pa.gov

City/State/Zip Harrisburg PA 17105

SECTION C: PROJECT DESCRIPTION

This project is located on: ☐ Federal property ☐ State property ☐ Municipal property ☒ Private property
(check all that apply)

List all Federal and State agencies and programs (funding, permits, licenses) involved in this project	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
	Federal	Federal Transit Administration/NEPA, funding	Funding from 5307

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply): ☒ Construction ☒ Demolition ☐ Rehabilitation ☐ Disposition

Total acres of project area: 19.25 Total acres of earth disturbance: 19.25

Are there any buildings or structures within the project area? ☒ Yes ☐ No Approximate age: ca. 1893-1970

This project involves properties listed in or eligible for listing in the National Register of Historic Places, or designated as historic by a local government	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Unsure <input type="radio"/>	Name of historic property or historic districts	Pennsylvania Railroad, Main Line, Philadelphia to Harrisburg
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Please print and mail completed form and all attachments to:

PHMC
State Historic Preservation Office
400 North St.
Commonwealth Keystone Building, 2nd Floor
Harrisburg, PA 17120-0093

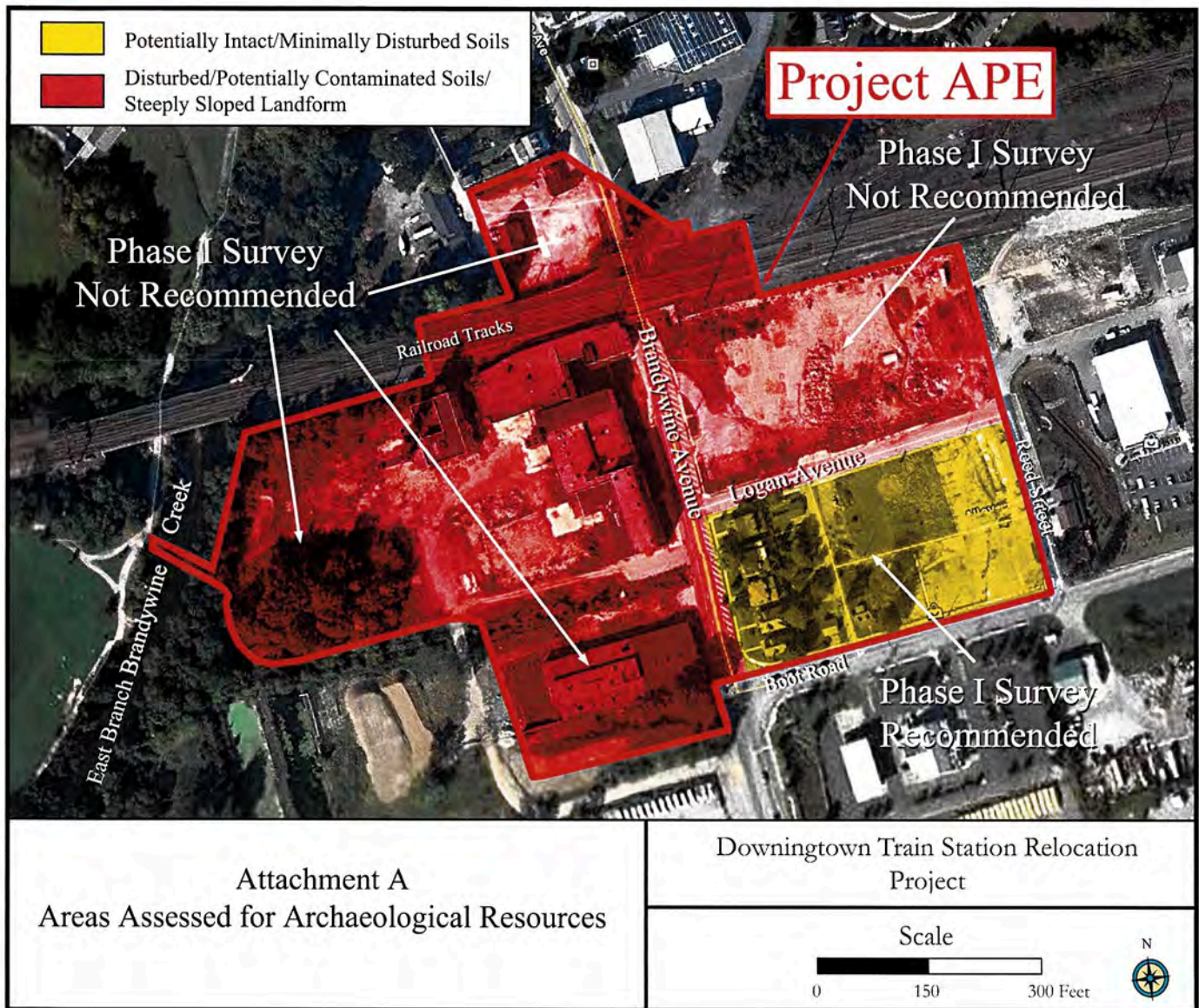
Attachments – Please include the following information with this form

- ☒ Map – 7.5' USGS quad showing project boundary and Area of Potential Effect
- ☒ Description/Scope – Describe the project, including any ground disturbance and previous land use
- ☒ Site Plans/Drawings – Indicate the location and age, if known, of all buildings in the project area
- ☒ Photographs – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan

SHPO DETERMINATION (SHPO USE ONLY)

SHPO REVIEWER:

- | | |
|--|---|
| <input type="checkbox"/> There are NO HISTORIC PROPERTIES in the Area of Potential Effect | <input type="checkbox"/> The project will have NO ADVERSE EFFECTS WITH CONDITIONS (see attached) |
| <input type="checkbox"/> The project will have NO EFFECT on historic properties | <input type="checkbox"/> SHPO REQUESTS ADDITIONAL INFORMATION (see attached) |
| <input type="checkbox"/> The project will have NO ADVERSE EFFECTS on historic properties: | |





Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

June 15, 2016

Mr. Timothy Lidiak
Community Planner, FTA
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

RE: ER 2016-1407-029-A; Proposed Downingtown Station Relocation Project; Downingtown, Chester County; Historic Resource Survey Forms and Archaeological Analysis

Dear Mr. Lidiak,

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Archaeological Resources

We concur with the recommendations concerning Phase I archaeological testing. Please provide a copy of the Phase I report once it is available.

Above Ground Resources

We are requesting additional information to complete our review. Please provide information regarding the potential of a historic district in this location. Questions to consider would include if the existing East Lancaster Avenue Historic District (Key No.001539) boundary is accurate or could it be expanded to include Brandywine Avenue? If no, could the area around the Frank P. Miller Paper Company, extending along Brandywine Avenue be a separate, distinct historic district?

If the assessment for a potential historic district substantiates that a historic district(s) is not present in this location and/or would not include the Frank P. Miller Paper Company, please address the following with regards to the Frank P. Miller Paper Company. The integrity evaluation for the property included in the HRSF notes that the "ca.1870-1900 houses, which border the site to the north and east, are largely intact;" however, these were not included in the HRSF for the company property itself. We suggest inclusion of these within the same form, as they appear to be historically related. Is what remains of the Frank P. Miller Company property today sufficient to convey its potential significance? When was Plant # 2 built? How did it relate to Plant # 1? In addition, with the exception of the historic aerials, the historic mapping included in the HRSF for the paper company is clipped so please provide an overall map of the entire property as it existed historically, including the Sanborn Fire Insurance Company maps, so that we can better understand the evolution and physical history of the property.

If you need further information regarding archaeological resources, please contact Mark Shaffer at mshaffer@pa.gov or (717) 783-9900. If you need further information concerning above ground resources, please contact Emma Diehl at emdiehl@pa.gov or (717) 787-9121.

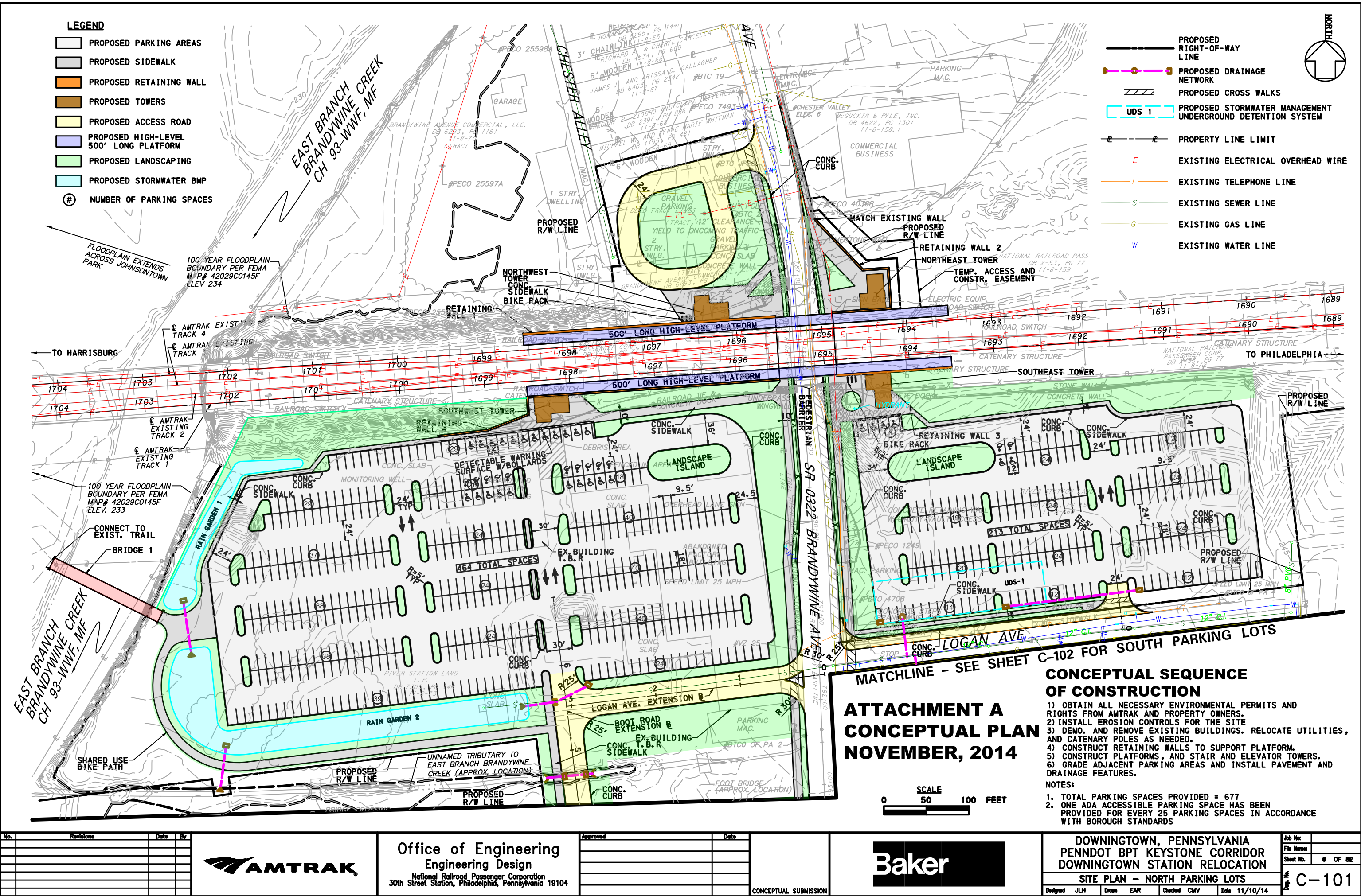
Sincerely,

A handwritten signature in black ink, appearing to read "Douglas C. McLearn", is written over a light gray rectangular background.

Douglas C. McLearn, Chief
Division of Archaeology and Protection

APPENDIX C:
PREFERRED ALTERNATIVE ENGINEERING

11-NOV-2014 19:40
c:\pwworking\locall\projects\james.harris\40310062\C-101-Proposed N.dgn



LEGEND

- PROPOSED PARKING AREAS
- PROPOSED SIDEWALK
- PROPOSED ACCESS ROAD
- PROPOSED LANDSCAPING

NUMBER OF PARKING SPACES

PROPOSED
RIGHT-OF-WAY
LINE

PROPOSED DRAINAGE
NETWORK

PROPOSED CROSS WALKS

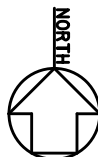
UDS 3 PROPOSED STORMWATER MANAGEMENT
UNDERGROUND DETENTION SYSTEM

PROPERTY LINE LIMIT

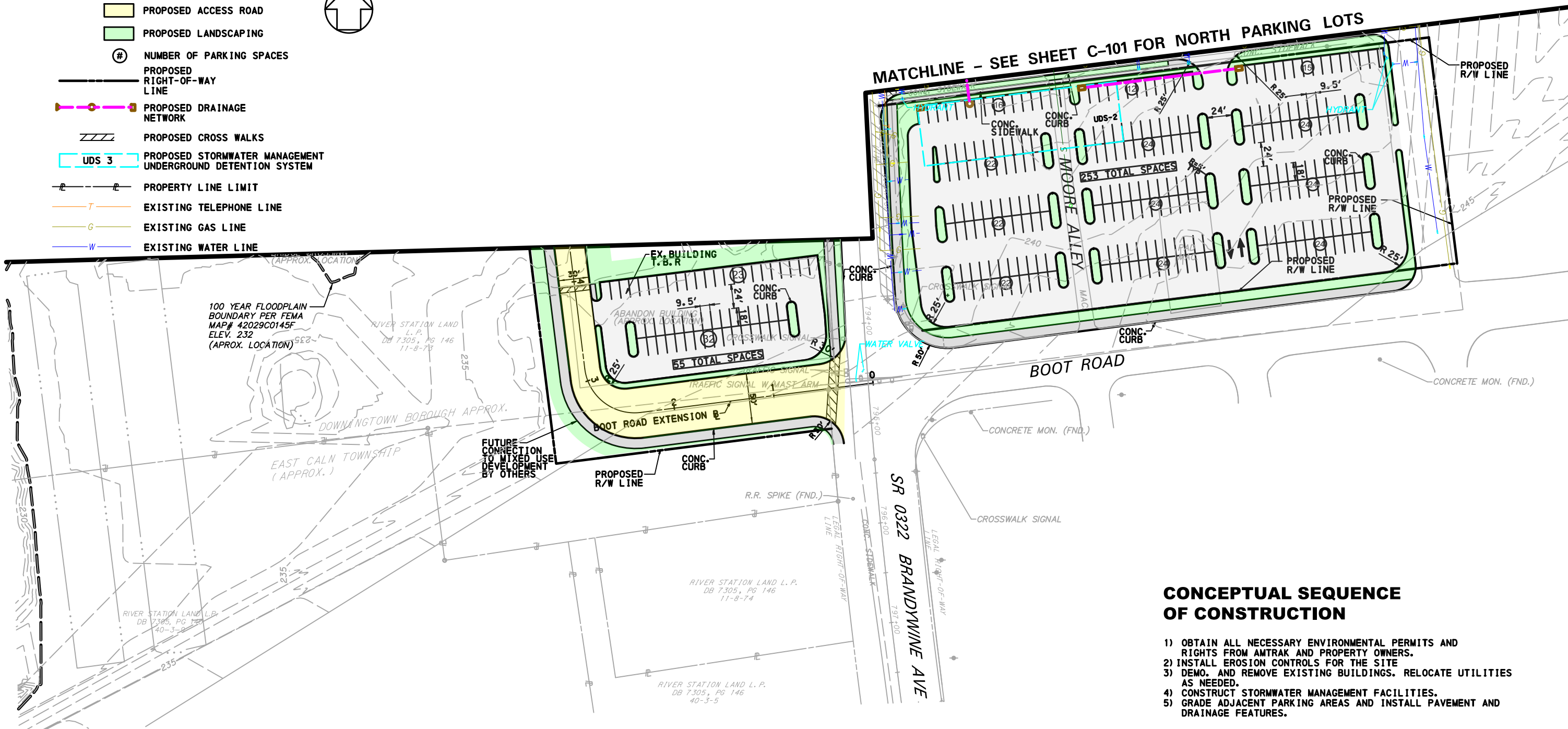
EXISTING TELEPHONE LINE

EXISTING GAS LINE

EXISTING WATER LINE



MATCHLINE - SEE SHEET C-101 FOR NORTH PARKING LOTS



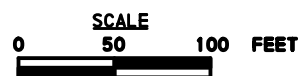
CONCEPTUAL SEQUENCE
OF CONSTRUCTION

- 1) OBTAIN ALL NECESSARY ENVIRONMENTAL PERMITS AND RIGHTS FROM AMTRAK AND PROPERTY OWNERS.
- 2) INSTALL EROSION CONTROLS FOR THE SITE
- 3) DEMO. AND REMOVE EXISTING BUILDINGS. RELOCATE UTILITIES AS NEEDED.
- 4) CONSTRUCT STORMWATER MANAGEMENT FACILITIES.
- 5) GRADE ADJACENT PARKING AREAS AND INSTALL PAVEMENT AND DRAINAGE FEATURES.

NOTES:

1. TOTAL PARKING SPACES PROVIDED = 310
2. ONE ADA ACCESSIBLE PARKING SPACE HAS BEEN PROVIDED FOR EVERY 25 PARKING SPACES IN ACCORDANCE WITH BOROUGH STANDARDS

ATTACHMENT A
CONCEPTUAL PLAN
NOVEMBER, 2014



No.	Revisions	Date	By



Office of Engineering
Engineering Design
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

CONCEPTUAL SUBMISSION

Baker

DOWNWINTOWN, PENNSYLVANIA PENNDOT BPT KEYSTONE CORRIDOR DOWNWINTOWN STATION RELOCATION SITE PLAN - SOUTH PARKING LOTS			
Designed	JLH	Drawn	EAR
Checked	CMV	Date	11/10/14

Job No.	
File Name	
Sheet No.	8 OF 82
at	C-102

APPENDIX A:
PROGRAMMATIC AGREEMENT

PROGRAMMATIC AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION (FTA),
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT)
AND
THE PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE (PASHPO),
REGARDING THE DOWNINGTOWN TRAIN STATION IN THE CITY OF DOWNINGTOWN,
CHESTER COUNTY, PENNSYLVANIA

This Programmatic Agreement ("PA"), is entered into on the 16th day of September, 2016 ("Effective Date"), by and among the Federal Transit Administration ("FTA"), the Pennsylvania Department of Transportation ("PENNDOT") and the Pennsylvania State Historic Preservation Office ("PASHPO") (each a "Party" and collectively the "Parties").

WHEREAS, PENNDOT proposes to construct a new Downingtown Train Station, in order to provide a station which is accessible in accordance with the Americans with Disabilities Act ("ADA") (herein the "Project" or "Undertaking"); and

WHEREAS, FTA plans to provide funding assistance for the Undertaking, thereby making it an undertaking subject to review under Section 106 of the National Historic Preservation Act ("NHPA"), 54 U.S.C. § 306108, and its implementing regulations, 36 CFR Part 800; and

WHEREAS, FTA in consultation with the PASHPO has established the Project Area of Potential Effect ("APE"), as defined at 36 CFR Part 800.16(d), to be centered on the Brandywine Avenue underpass and roughly bounded by West Boot Road to the south, Chester Alley to the north, Brandywine Creek to the west, and Reed street to the east, encompassing the proposed limits of disturbance and a visual buffer surrounding the Undertaking (Attachment A); and

WHEREAS, FTA, pursuant to 36 CFR Part 800.3, has made an effort to seek consulting parties, and has identified the PASHPO and the Chester County Historic Preservation Office as consulting parties for the Project. FTA will continue to involve the public and consulting parties as stipulated under the NHPA, as amended, and its implementing regulations (36 CFR Part 800); and

WHEREAS, FTA has initiated consultation with federally recognized tribes (Tribes and Nations) with ancestral ties to Pennsylvania who may attach religious or cultural significance to historic properties within the APE. FTA initiated consultation with the Shawnee Tribe of Oklahoma, Cayuga Nation, Delaware Nation, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Oneida Indian Nation, Oneida Nation of Wisconsin, Onondaga Nation, Seneca Nation of Indians, Seneca-Cayuga Tribe of Oklahoma, St. Regis Mohawk Tribe, Shawnee Tribe, Stockbridge-Munsee Band of the Mohican Nation of Wisconsin, Tonawanda Seneca Nation, and Tuscarora Nation, though no responses have yet been received; and

WHEREAS, FTA has invited PENNDOT to participate in the consultation and to sign this PA and has invited Southeastern Pennsylvania Transportation Authority (SEPTA) and AMTRAK as users of the station to be concurring parties; and

WHEREAS, FTA has completed preliminary identification of historic properties and provided the survey to the PASHPO for review and comment and wherein the PASHPO requested additional information for review and consideration regarding historic properties; and

WHEREAS, FTA in consultation with PASHPO, has initiated identification for archaeological resources and will complete identification of potential archaeological resources within a Phase I Archaeological Survey Report; and

WHEREAS, FTA has consulted with the PASHPO in accordance with Section 106 of the NHPA, 16 USC Part 470 (NHPA), and its implementing regulations (36 CFR Part 800) to determine that the Project may have an effect on properties eligible for listing in the National Register of Historic Places (National Register); and

WHEREAS, FTA has invited the ACHP to participate in consultation, and the ACHP has declined; and

WHEREAS, grant funding constraints for PENNDOT, FTA has elected to comply with Section 106 of the NHPA, 16 USC Part 470(f) through execution and implementation of a PA pursuant to 36 CFR Part 800.14; and

NOW, THEREFORE, FTA and PASHPO agree that upon FTA's decision to proceed with the Project, FTA shall ensure that the following stipulations are implemented in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

FTA shall ensure that the following stipulations are implemented by PENNDOT:

1. Identification of Above-Ground Historic Properties

A. An architectural survey was completed for the project resulting in the identification of one previously determined National Register-eligible resource (the Pennsylvania Railroad: Philadelphia to Harrisburg) and two newly recommended eligible resources (the Frank P. Miller Paper Company/Downingtown Paper Box Company and the Torbert Dwelling). The PASHPO did not concur with these recommendations and asked via a response letter for additional information to complete its review. Two specific items were requested for clarification. FTA agrees to provide the following information within 180 days of execution of this PA:

- a. Potential Historic District Evaluation of the East Lancaster Avenue Historic District (Key # 001539) through a memorandum and supporting documentation that specifically discusses whether the existing historic district boundary could be expanded to include the area around and including the Frank P. Miller Paper Company. If the information reveals that the current boundary is accurate, then FTA will address through a memorandum and supporting documentation if a historic district could be centered on the Frank P. Miller Paper Company, extending along the Brandywine Avenue.
- b. If the assessment of the potential historic district substantiates that a historic district(s) is not present in this location an/or would not include the Frank P. Miller Paper Company, then FTA will prepare a memorandum and supporting documentation to address the additional information requested as specified in the June 15, 2016 response letter from the PASHPO to FTA (Attachment B).

2. Identification of Archaeological Resources

A. Prior to project construction, PENNDOT shall complete a Phase I archaeological survey in the residential block in the APE located east of Brandywine Avenue, between Logan Avenue and Boot Road. The archaeological survey will be conducted in a manner consistent with the

Secretary of the Interior's Standards and Guidelines for Identification (46 FR 44720-23), also taking into account the National Park Service's publication *The Archaeological Survey: Methods and Uses* (1978: GPO stock #024-016-00091) and the PASHPO/Pennsylvania Historical and Museum Commission's *Guidelines for Archaeological Investigations in Pennsylvania* (May 2016).

- B. Any archaeological resources identified within the APE will be evaluated in accordance with 36 CFR 800.4 (c). PENNDOT will submit a report on the findings of the survey to FTA, the PASHPO, and any consulting Tribes and Nations, and other consulting parties for their review and comment. The PASHPO's concurrence will be requested on the eligibility of any potential archaeological resources. The review period will be thirty (30) days.
- C. PENNDOT shall ensure that any human remains and/or grave-associated artifacts encountered during the archaeological investigations are brought to the immediate attention of FTA, the PASHPO, and any federally recognized Tribes that may attach religious and/or cultural significance to the affected property. Notification will be within 48 hours of the discovery. No activities which might disturb or damage the remains will be conducted until FTA, in consultation with the appropriate parties, has developed a treatment plan that considers the comments of the appropriate parties. All procedures will follow the guidance outlined in the National Park Service publication National Register Bulletin 41: *Guidelines for Evaluating and Registering Cemeteries and Burial Places*, taking into account the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601) and the Pennsylvania Historical and Museum Commission's Policy for the Treatment of Burials and Human Remains (1993).
- D. All records and materials resulting from the archaeological investigations will be curated in accordance with 36 CFR Part 79 and the current curation guidelines developed by the State Museum of Pennsylvania and the Pennsylvania Historical and Museum Commission.
 - a. Artifacts recovered from Commonwealth property and all associated records will be curated at the State Museum of Pennsylvania or their designee.
 - b. When artifacts are recovered from property not owned by the Commonwealth, PENNDOT will explain to the property owner the importance of artifact donation and will request that the owner sign a gift agreement donating the artifacts to the State Museum. If the property owner does not wish to donate the artifacts, PENNDOT will complete the necessary analyses prior to returning the artifacts, and will submit all records to the State Museum.
 - c. Should a federally recognized Tribe or Nation request artifacts, FTA will consider the request in consultation with the State Museum of Pennsylvania.
 - d. PENNDOT will submit archeological collections to the PHMC within three months of acceptance of the final report. PENNDOT will be responsible for the curation fee of three hundred-fifty dollars (\$350) per cubic foot.

3. Determination of Effect

A. Archaeological Resources

- a. If eligible archaeological resources are identified within the APE, PENNDOT will make a reasonable effort to avoid or minimize effects to these resources. If the eligible resources cannot be avoided, PENNDOT will apply the Criteria of Adverse Effect in accordance with 36 CFR 800.5. If the project will have an adverse effect on archaeological sites, and if these resources are eligible chiefly under National Register Criterion D (36 CFR § 63)

for the significant information in prehistory or history they are likely to yield through data recovery, PENNDOT will ensure that a data recovery plan or a plan for alternative mitigation is developed in consultation with the PASHPO. Any data recovery plan will be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and also will take into account the Advisory Council on Historic Preservation's (ACHP) publication Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites. The data recovery or alternative mitigation plan will be submitted to FTA, the PASHPO, and any consulting Tribes for their review and comment. The review period will be 30 days. If archaeological resources are identified which are eligible under Criteria other than or in addition to Criterion D, PENNDOT shall comply with 36 CFR § 800.6.

- b. If an archaeological site eligible for the National Register of Historic Places is identified, and if it will be adversely impacted by the Undertaking, PENNDOT will conduct Data Recovery excavation or an alternative mitigation according to the approved mitigation plan. At the conclusion of data recovery excavations or alternative mitigation, PENNDOT will prepare a report(s) on the results of the data recovery or alternative mitigation. The report will be provided to FTA, the PASHPO, and consulting Tribes for review and comment. Data recovery report(s) will meet professional standards set forth by the Department of the Interior's Format Standards for Final Reports of Data Recovery Program (42 FR 5377-79) and will be prepared consistent with the PASHPO's Guidelines for Archaeological Investigations in Pennsylvania (May 2016). A draft report will be provided to FTA, PASHPO, consulting Tribes and Nations and other consulting parties within a year of the completion of archaeological fieldwork. The review period will be 30 days. Any comments provided by FTA, PASHPO, Tribes or Nations, or other consulting parties will be of the final report. All final reports will be completed and submitted within 6 months of the close of the comment period.
- c. If archaeological data recovery is necessary, the mitigation plan will include preparation of information for the general public. The specific materials to be produced will be determined individually for each site for which data recovery is necessary and may include but not be limited to pamphlets, brochures, artifact displays, exhibits, or booklets on the results of the excavations. The public information materials should explain the purpose of the project and the significance of the excavation of eligible sites. PENNDOT shall consult with FTA, the PASHPO and any consulting Tribes on the proposed public information materials and will provide a draft of any public information materials to FTA, the PASHPO and any consulting Tribes for their review and comment prior to the finalization of the materials. The review period will be 30 days.

B. Above-Ground Historic Properties Archaeological Resources:

- a. FTA, in consultation with the PASHPO and input from the Chester County Historic Preservation Network shall evaluate the effects to those properties identified in Stipulation 1 above, according to 36 CFR Part 800.5.
- b. If FTA and PASHPO agree that a historic property will be adversely affected, then FTA will develop suitable mitigation in consultation with the PASHPO and Chester County Historic Preservation Network to be outlined in a mitigation plan to be implemented by FTA. The mitigation plan will stipulate mitigation and timeframes for completion. If, after consultation, FTA and PASHPO cannot agree on appropriate terms for a mitigation plan, FTA will refer the matter to the ACHP pursuant to Stipulation D.2 of this PA.

- c. If FTA and PA SHPO disagree regarding the effects to historic property(s), FTA will request the ACHP's opinion. The ACHP will advise FTA of its opinion regarding the effects to the property. FTA will take into account the ACHP's opinion before making a final determination. If an adverse effect is found by FTA, mitigation will be developed and implemented in accordance with Stipulation 3.B.b.

Administrative Conditions

A. Personnel Qualifications.

PENNDOT shall ensure that all historic preservation and documentation work is carried out by or under the direct supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualification Standards for Architectural Historians and Archaeologists (48 FR 44738-9).

B. Post Review Discoveries.

If any unanticipated discoveries of historic properties or archaeological sites are encountered during the implementation of this Undertaking, FTA shall comply with 36 CFR 800.6(c)(6) by consulting with all other signatories to this PA, and if applicable, with Federally-recognized tribal organizations that attach religious and/or cultural significance to the affected properties. FTA, with the concurrence of all signatories to this PA, shall also develop and implement appropriate actions, if applicable, as required by the relevant Federally-recognized tribal organization.

C. Amendments to this PA

If any Party to this PA desires to make a change hereto, it may do so by proposing the change (or changes) to the other Parties, including to FTA as the lead Federal agency. FTA shall consider such change (or changes) and propose to all Parties an amendment to this PA that accurately reflects the proposed change (or changes). If all Parties agree with the proposed change (or changes) as documented in the amendment, the Parties shall all execute the amendment to this PA. If a Party does not agree with the proposed change (or changes), the disagreeing Party shall make its objection in accordance with Section D.1 below. The objection shall be resolved in accordance with Section D below.

D. Dispute Resolution

1. Should any Party to this PA have an objection ("Objecting Party") regarding any actions to be carried out or changes proposed pursuant to this PA, the Objecting Party shall notify FTA in writing of each such dispute or objection (herein collectively "Dispute"). FTA shall be responsible for consulting with the Objecting Party, and if appropriate with the other Parties, to understand, assess and resolve the Dispute.
2. If after initiating such consultation, FTA determines that the Dispute cannot be resolved through consultation, FTA shall (i) terminate the consultation; (ii) forward all documentation relevant to the Dispute, including information on its preliminary opinion regarding the Dispute, to the ACHP and request, in accordance with 36 CFR 800.7(a), that the ACHP comment on the Dispute; and (iii) notify all Parties of the request to the ACHP.
3. The ACHP shall then act in accordance with 36 CFR 800.7(c) and, within forty- five (45) days after receipt of all pertinent documentation related to the Dispute, the ACHP shall provide

the opportunity for all Parties, and at the discretion of the ACHP, the public, to provide their views. Then the ACHP shall exercise one of the following options:

- a. Advise FTA that the ACHP concurs with FTA's preliminary opinion regarding the Dispute; FTA shall then formulate its final decision on the objection and notify the Objecting Party and the other Parties of FTA's final decision; or
 - b. Provide FTA, and the other Parties, as appropriate, with comments and recommendations that may differ from FTA's preliminary opinion.
4. FTA shall take into account the ACHP's comments, and shall reach its final decision on the Dispute and formulate the resolution to the Dispute. FTA shall then document its decision in accordance with 36 CFR 800.7(c)(4).
5. Should the ACHP not exercise one of the above options within forty-five (45) days after receipt of all pertinent documentation, FTA may assume ACHP's concurrence in its proposed response to the Dispute.
6. FTA shall act in accordance with Section D only with regard to the resolution of a Dispute that arises hereunder. FTA's responsibilities, under this PA, to carry out actions as stated herein, are not Disputes subject to this Section D and remain unchanged.

E. Monitoring and Reporting

Upon six months from the execution of this PA, and every six months until the PA expires or is terminated, pursuant to Section F below, FTA (with consultation from PENNDOT) shall provide to all other Parties a summary report detailing the work carried out pursuant to the terms of this PA. Such report shall include any scheduling changes that occurred and/or are proposed, any problems encountered, and any Disputes that have arisen with regard to efforts to carry out the terms of this PA.

F. Duration

If the terms of this PA have not been implemented by two (2) years from the date of this signed PA, this PA shall be considered null and void. In such an event, FTA shall notify PENNDOT and the PASHPO, and if it chooses to continue with the project, it shall re-initiate review of the project.

G. Termination

1. If any Party determines that it cannot carry out its responsibilities under this PA as stated, it shall raise its concern or objection as a Dispute in accordance with Section D above. Potential resolutions of such a Dispute are that the PA is terminated or that an amendment to this PA is appropriate, which shall be effectuated in accordance with Section C above.
2. If the stipulations set forth in Sections 1-4 of this PA have not been completely implemented within five years after the date of the execution of this PA, then upon the expiration of such five-year period, this PA shall terminate. Prior to such time, FTA may consult with the other signatories to reconsider the terms of the PA and amend it in accordance with Section C above. Upon any termination of this PA, PENNDOT shall be prohibited from continuing with the Accessibility Project or Undertaking until they comply with their obligations hereunder.

H. Counterparts

This PA may be executed in any number of counterparts, each of which shall be deemed to be an original as against any Party whose signature appears thereon, and all of which shall together constitute one and the same PA. This PA will become binding when one or more counterparts hereof, individually or taken together, bears the signature of all Parties hereto. Any facsimile, photograph or photocopy of this PA with all signatures reproduced shall be considered, for all purposes, as if it were an executed original counterpart of this PA.

I. Interpretation

This PA shall not be construed for or against any Party by reason of the authorship or alleged authorship of any provision. The section headings contained in this PA are for ease of reference only and shall not be used in constructing or interpreting this PA.

J. Integration

This PA forms the entire and complete statement of the arrangements and obligations of all Parties as to subject matter hereof. The terms of this PA may not be altered or amended except by a written document that all Parties sign.

(THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK)

SIGNATORIES:

FEDERAL TRANSIT ADMINISTRATION (FTA)

By:


Title: Terry Garcia Crews – Regional Administrator

Date:

9-7-16

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION (PENNDOT)

By:



Title: Deputy Secretary

Date:

9/1/16

PENNSYLVANIA STATE HISTORIC PRESERVATION OFFICE (PASHPO)

By:



Date:

9/2/2016

Title: Deputy State Historic Preservation Officer

PENNSYLVANIA OFFICE OF GENERAL COUNSEL

By: Elizabeth S. Peltz
Deputy General Counsel

Date: 9/14/16

PENNSYLVANIA OFFICE OF ATTORNEY GENERAL

By: 
Deputy Attorney General

Date: 9/16/16

ATTACHMENT A



Project Location/APE and Resource Location Map DOWNINGTOWN, CHESTER COUNTY, PENNSYLVANIA

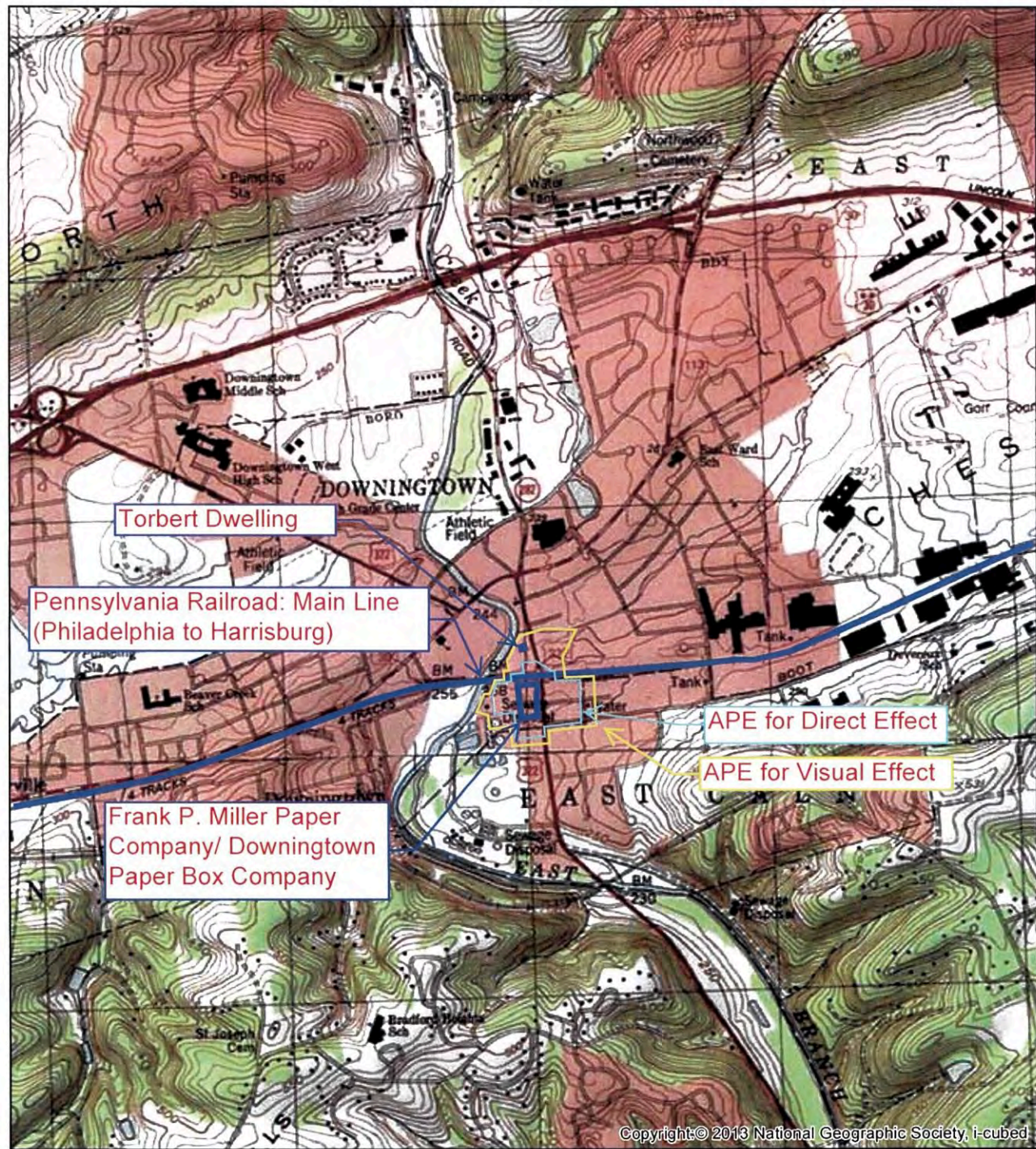


Figure 1: Project Location/APE and Resource Location Map

Key: — National Register Boundary



Downingtown Train Station
 Project

Source: Downingtown, PA Quad.
 USGS 1984.



1:24,000

ATTACHMENT B



Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

June 15, 2016

Mr. Timothy Lidiak
Community Planner, FTA
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

RE: ER 2016-1407-029-A; Proposed Downingtown Station Relocation Project; Downingtown, Chester County; Historic Resource Survey Forms and Archaeological Analysis

Dear Mr. Lidiak,

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Archaeological Resources

We concur with the recommendations concerning Phase I archaeological testing. Please provide a copy of the Phase I report once it is available.

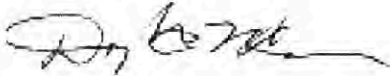
Above Ground Resources

We are requesting additional information to complete our review. Please provide information regarding the potential of a historic district in this location. Questions to consider would include if the existing East Lancaster Avenue Historic District (Key No.001539) boundary is accurate or could it be expanded to include Brandywine Avenue? If no, could the area around the Frank P. Miller Paper Company, extending along Brandywine Avenue be a separate, distinct historic district?

If the assessment for a potential historic district substantiates that a historic district(s) is not present in this location and/or would not include the Frank P. Miller Paper Company, please address the following with regards to the Frank P. Miller Paper Company. The integrity evaluation for the property included in the HRSF notes that the "ca.1870-1900 houses, which border the site to the north and east, are largely intact;" however, these were not included in the HRSF for the company property itself. We suggest inclusion of these within the same form, as they appear to be historically related. Is what remains of the Frank P. Miller Company property today sufficient to convey its potential significance? When was Plant # 2 built? How did it relate to Plant # 1? In addition, with the exception of the historic aerials, the historic mapping included in the HRSF for the paper company is clipped so please provide an overall map of the entire property as it existed historically, including the Sanborn Fire Insurance Company maps, so that we can better understand the evolution and physical history of the property.

If you need further information regarding archaeological resources, please contact Mark Shaffer at mshaffer@pa.gov or (717) 783-9900. If you need further information concerning above ground resources, please contact Emma Diehl at emdiehl@pa.gov or (717) 787-9121.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug McLearn", with a long horizontal flourish extending to the right.

Douglas C. McLearn, Chief
Division of Archaeology and Protection



Appendix K

Threatened and Endangered Species
Correspondence

1. PROJECT INFORMATION

Project Name: **Downingtown Train Station**

Date of review: **5/11/2015 9:41:26 AM**

Project Category: **Transportation,Public Transit (subways, busways and Tramways)**

Project Area: **19.9** acres

County: **Chester** Township/Municipality: **Downingtown,East Caln**

Quadrangle Name: **DOWNINGTOWN** ~ ZIP Code: **19335**

Decimal Degrees: **40.002148 N, -75.703231 W**

Degrees Minutes Seconds: **40° 0' 7 N, W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect potential Indiana bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this.

Your answer is: **2. The project will affect 1 to 19 acres of forests, woodlots and trees.**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to federally listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.



5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA.
17105-8552
Fax: (717) 772-0271

U.S. Fish and Wildlife Service

Pennsylvania Field Office
110 Radnor Rd; Suite 101, State College, PA 16801
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax: (717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: Mo McCurdy
Company/Business Name: Michael Baker International
Address: 4431 N. Front St., 2nd Floor
City, State, Zip: Harrisburg, PA 17110
Phone: (717) 221-2002 Fax: ()
Email: morgan.mccurdy@mbakerintl.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

M. McCurdy 5/11/15
applicant/project proponent signature date